MEETING
CALIFORNIA AIR RESOURCES BOARD
SCIENTIFIC REVIEW PANEL ON TOXIC AIR CONTAMINANTS

1. Presentation by DPR and SRP discussion of DPR Evaluation of Methyl Parathion as a Toxic Air Contaminant (TAC)

2. DPR presentation and SRP consideration of DPR's Draft Report "Pesticides for Evaluation as Candidate Toxic Air Contaminants."

3. Office of Environmental Health Hazard Assessment (OEHHA) presentation and SRP discussion of OEHHA SB1731 Risk Assessment Guidelines Development

4. OEHHA presentation and SRP discussion of the process and status of the OEHHA Evaluation of Environmental Tobacco Smoke

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REPORTER'S TRANSCRIPT OF PROCEEDINGS

Location: ARNOLD AND MABEL BECKMAN CENTER
National Academy of Science Building
Lecture Room
100 Academy Drive
Irvine, CA

Date and Time: Thursday, December 8, 1994
10:05 a.m. to 1:10 p.m.

Reported by: JOANNE P. CUNNINGHAM, CSR No. 2734

Job No.: 26184JC

A P P E A R A N C E S

MEMBERS PRESENT:

DR. JAMES N. PITTS, JR.
DR. GARY FRIEDMAN
DR. HANSPETER WITSCHI
DR. CRAIG BYUS
DR. JAMES N. SEIBER

ALSO PRESENT:

MR. BRUCE OULREY, ARB
MR. WILLIAM LOCKETT, ARB
DR. JAY SCHREIDER, CA EPA, Dept. of Pesticide Regulation, Toxicology Branch
PAUL F. GOSSELIN, CA EPA Environmental Monitoring, Dept of Pesticide Regulation, Division of Enforcement, Environmental Monitoring, and Data Management
KEVIN KELLEY, CA EPA, Environmental Monitoring and Pest Management
DAVID DUNCAN, CA EPA, Environmental Monitoring and Pest Management
MELANIE A. MARTY, CA EPA, OEHHA, Air Toxicology and Epidemiology Section
MS. GENEVIEVE A. SHIROMA, ARB
LISA KASPER, ARB, Toxic Air Contaminant ID Branch of Stationary Source Division
AMY DUNN (Telephonically)

I N D E X

Irvine, CA Thursday, December 8, 1994

P R O C E E D I N G S

DR. PITTS: A formal good morning to all of you. We appreciate your coming today. You have the agenda. It certainly has been made available to all of you. But I'd like, Mr. Lockett, if you would just sort of run through the actual procedures today. Several members of the committee are unable to attend because they have pressing matters elsewhere, but they will be on telephone hookups, I gather.

Bill, could you tell us the story, then --

MR. LOCKETT: Sure.

DR. PITTS: -- how to handle this.

MR. LOCKETT: Thank you, Mr. Chairman.

Dr. Froines had a conflict that arose which requires that he be elsewhere than here today, but he is available from 10:00 to 12:00. And so because we're meeting in the Beckman Center, there is the capability for interactive participation, and the clarity and the technical capabilities here are really very good. So he has a telephone number and an access number to call in to here as soon as he's available to tune in and participate. He can hear and we can hear him. And that

will occur as soon as he becomes available. I would assume that will occur shortly.

Dr. Glantz is in Washington, D.C. He did not know what his schedule would be today. He had a meeting last night that started at 5 p.m., and that was going to determine what his schedule was today. He also will call in as soon as he's available. And we will let you know, if we don't hear otherwise, when they become a part of this meeting.

DR. PITTS: Okay. That's fine. Thank you.

MR. LOCKETT: You're welcome.

DR. PITTS: The first formal matter for discussion will be the presentation by the DPR on the DPR evaluation of methyl parathion as a toxic air contaminant.

I want to say at the outset how much I appreciate you people being here from DPR, and it's an interaction that is important to the panel and interesting scientifically and professionally, in all respects; and we do appreciate the efforts you've made getting down here and interacting with us on how things are moving along on a front that's important to all of us.

MR. GOSSELIN: Thank you, Dr. Pitts. I'm

Paul Gosselin. I'm assistant director with the Department of Pesticide Regulation. With me I have David Duncan and Kevin Kelley from the Environmental Monitoring and Pest Management Branch, and Jay Schreider from the Medical Toxicology Branch.

The two items we -- that are on the agenda we wanted to discuss with you today was, one, the update on the methyl parathion document, evaluation document. And I think with -- we're making, I think, fairly good progress, and I think as an outcome of the meeting we had last fall, we are prepared to have the revisions made we discussed -- I thought I'd go over them real briefly -- and have that document out for public comment by the first quarter of '95.

The process that that's going to follow is when we get that out, it's going to go out for public comment; and we're still discussing the time period for that public comment period. I think the revisions that we talked about and the time it's taken -- I know it's been kind of lengthy on getting that document cleaned up, but I think it's also going to ensure that a lot of the issues that may be raised during the public comment period are going to be addressed once we get that document out.

But public comment period is somewhere

between 30 -- 30 days or more, and that's something I think we're going to look into as to what's appropriate. Once we get those comments in, we're going to take a look at them and, I think, get back together and discuss the scope of them and make some additional revisions to the document, and then bring it back to the SRP for a formal presentation.

We were discussing as to how long it's going to take in between the end of the public comment period, the review of the public comments, and then to come back before the panel. I think we're looking probably sometime in the fall of '95, but that's all going to be dependent upon the detail and the scope and the issues that are raised in the public comment period. But that's sort of an ideal type of timetable.

Just briefly, some of the, I think, important issues that were raised when we met in October. There are a number of issues that we are going to address concerning health-effects issues and exposure issues that I think need to be laid out in the document and clarified and also discussion on modeling issues on exposure. That needs to be laid out and discussed in a bit more detail than the first document. And also the format, which was also an important issue.

We are going to keep the -- essentially the

format of the document the same, but one thing that we are -- and I believe we have cleaned up -- is an executive summary at the beginning of the document that will clearly lay out in a similar format that you're used to seeing from ARB and OEHHA, the major issues covered in the document.

And I think in time, as we work to have our integrated program dovetail into the -- this process, we're going to look to make even further refinements to the next document that comes through so it's as consistent as possible to the format that you're used to seeing and actually make the process harmonize in far greater detail.

With that, that's basically the overview of where we're at with the methyl parathion document. The major portion of today's presentation, we wanted to get into the Item 2, the draft document on criteria for pesticides as TAC candidates, and we have a more in-depth presentation and discussion we want to have on that. But if you have any questions on methyl parathion --

DR. PITTS: I'd like to ask you -- I think we should note for the record that, in fact, your excellent letter of October 7th listed comments that were made by Dr. Seiber, myself, and contributions from

the rest of the panel, and your responses to these, and it would seem appropriate perhaps -- Dr. Seiber, would you like to go through this discussion concerning -- perhaps in some detail, point by point that are raised, for the record, and for some comments. We have a few.

I might just start by one point and one suggestion is that -- I don't know if -- when you think of the public comment period, you ought to think about the legal aspects of the time frame in which you put this, because -- and also even for -- as a matter of fact, one of the things, what time of the year is it? How many three-day vacations are there?

Genevieve is smiling back there because we've gotten caught by thinking, gee, a month is a month, and by the time it gets mailed out and comes back and it has holidays, the -- we've taken some -- I don't know what the word would be -- flack, but justifiable flack, I think -- the panel as well -- from the industrial sources who are involved with these and environmental groups who are involved with the analyses. And I know certainly from the ARB's perspective and from the perspective of the panel, we want to be absolutely certain that there is ample time on the part of the outside communities to give a review.

So you might want to think (A) what's

legal; (B) what's -- and let's make it practical and fitting for this, because I'm sure you have the same philosophy. You want to give them -- plenty of time to the people that are involved with this. And that is just a suggestion.

But Jim, would you like to take over now?

DR. SEIBER: Yes. Thanks, Jim.

We spent quite a bit of time on the methyl parathion, and I think it's appropriate, because it's really the first of the new wave of chemicals. We see a lot of chemicals in the backlog that will need to be dealt with over the next several months. So I think it's important that the methyl parathion gets us off to a good start.

And some of the issues that methyl parathion report addresses will be ones that will come up over and over, such as the use of bridging data. We find that for a lot of pesticides, there's simply not a lot -- a wealth of monitoring data, so we may need to bridge from one compound to another -- or toxicity data as well. So bridging, I think, is a critical thing.

Monitoring data, I've already alluded to. There's really not nearly as much as we'd like, so we need to do some fairly wild extrapolations or wide extrapolations from the limited data that is available,

and that's where modeling comes in. To what extent can we use models? How does it apply in the case of methyl parathion? And how can we improve them in the future?

So I think the methyl parathion document is an important one, and as -- I see it as, again, the wave of the future. So the letter that we received from Paul and Jim Wells addressed many of these questions for the methyl parathion document.

The first section deals with health effects. And I don't know, Paul. Maybe you and your group would like to say what you feel the issues were that were raised and how you were going to deal with them. Craig Byus looked over this information, as well, so --

MR. GOSSELIN: Okay.

DR. SEIBER: -- under Item No. 1 in your letter, health effects, maybe you can just give us a thumbnail sketch of what your discussions were on that.

MR. GOSSELIN: Okay. The first issue is oncogenicity, and the -- one of the comments was the need to discuss why oncogenetic effects were not observed when the genotoxicity tests showed a positive result. And there was -- that is something that we agreed, that we did need to explain that in the document, and that issue is going to be discussed in more detail as to why -- why there was differences with

that, that you didn't see that when there was genotoxicity effects.

The next item on genotoxicity, I think that issue is raised again, and we did agree that when appropriate in vivo studies were available, we would include that -- relevance of those studies in the exposure levels. As part of that, we are increasing the footnotes and updating the footnotes on the genotoxicity tables to kind of clarify that and address that issue.

And I think that's something, also, that is also in here, is the need -- a couple of the points -- the need to update the references and continually do literature search, so when this document does come out, it's the most recent illustration of what's out in the literature of what we know about the product.

DR. PITTS: Could we just raise a point there? I would like to ask Craig if you have comments about these various points as we come along. I think we may want to. For example, I have one question just on this. It says, "When appropriate in vivo studies are available." This is on genotoxicity. Does that mean when they become available to your staff from the literature, or does it mean that the data are really sadly lacking? There are really no decent data bases, for example, for inhalation of methyl parathion --

paraoxon. Does it mean -- we want to clarify where you are, what that "when it becomes available" means, because -- does it need more research? Is it out there in the literature? Most probably some combination of the two.

MR. GOSSELIN: Yes. I think it's a combination of the two, and I think maybe in a general sense that we are going to be using what data is available on -- that's out there on these pesticides that are appropriate as part of the evaluation, that we're not going to be turning away data that really helps us give a good overview on the health effects of it.

But I think you're right, the point that there is a whole spectrum of data, there's a lot of data on health effects on pesticides through the registration process, but I think some of these are cutting-edge issues on -- that are very important; and having a full data base on every aspect that we're learning, on the effects of chemicals, including pesticides, is something that isn't totally complete. And I think it's the nature of science that it is going to be an evolving issue; but we're going to use what's out there that's -- has been done to credible scientific standards, that fits within the -- fits within the evaluation we're

working on these products.

DR. SEIBER: Well, fortunately, with some of these older pesticides like methyl parathion, there's -- reregistration is bringing new data in; some are under special review. That brings in new data. There's a lot of things that are going on at the federal level, at least, and maybe at the state level, as well, that will bring in new data. I don't know specifically in the case of methyl parathion, but I would expect that it would be on at least one of those lists.

MR. GOSSELIN: Yes. And one thing I think also that's important, and we face this a lot, that is part of this process, and we face this with the pesticides, as new data may come forward, may trigger us into mitigation actions on an ongoing basis, depending on what that data shows.

So I think as these documents come in, depending -- even though there may be some shortcomings in a new avenue or a new aspect of evaluation, there is going to be that ability in that process to be able to address that on an ongoing basis. So that's something I think we should keep in mind when we get these documents going, that we are going to be looking to these new areas in the future on an ongoing basis.

DR. PITTS: Well, specifically with

respect to methyl parathion, when you make the revisions and then send the document out for public comment, will you, in fact, have -- for that particular compound -- updated with the literature that -- as Jim -- you would then specifically have gone through these?

MR. GOSSELIN: Um-hmm.

DR. PITTS: I think that's important. It's just not totally clear, but that's fine. That's -- because, as you said -- I think we feel, in the panel, and this we felt right along, this was putting this timeliness -- and you're putting all kinds of time with these things -- but to have a consistent approach and a format and a protocol and sort of spell it out, and as we -- as it is evolved, it becomes easier. The problems scientific are still there, but at least the approach as to how it will be identified, and you have a consistent presentation -- an evaluation, presentation, and a time scale that makes certainly the practical problems of coming up with documents, I mean, a lot easier.

And we learned this through the SRP. The original SRP, back in 1980- -- what? -- '83 or '4, something like that, the procedurals just had to be worked out over a period of time. And so what you see today represents the approach that's used by the Air Resources Board and by the panel, the result of working

through these various approaches and coming up with something that seems to pretty well meet most of the requirements.

But it's worth the time you're putting on methyl parathion really to look at these points critically, because they'll be followed by the next -- the next one and the next one and the next one. You will have a format in which to make your plans and your approach.

MR. GOSSELIN: And I think I -- you know, we absolutely agree that when this document comes to fruition at the end of the process, that we'll have a document that includes the most recent understanding of the product and what's out there in the literature.

And I think even through the public comment period that, you know, people may be presenting some additional things that might have just recently been prepared. And so I think that's something we're also looking as part of the process.

DR. BYUS: I would just like to say -- my name is Craig Byus -- I was impressed with the document, as I said before, and it had a lot of very nicely compiled information in it. I was just struck by this compound. It's so geno- -- theoretically relatively genotoxic in in vitro assays, yet doesn't have any

animal carcinogenicity or epidemiology data. It's negative in carcinogenicity in animals -- there could be some other explanations for that -- and there are really minimal, according to what you have said, epidemiology data. So you're -- how are we going to deal with this? -- you know, is the question in my mind. And so that's all -- you know, I suggest that we try to resolve that issue, because that's -- maybe we can't resolve it.

And what I meant about those tables, 20 and 21, is if you can get some kind of human dosage information from the in vitro doses that were used -- if you can make any kind of extrapolation or any kind of a judgment of what that would mean to human exposure, for example -- that's what I was getting at.

And then those tables had -- they were very nicely compiled, but there was -- what positive and negative meant wasn't defined, and that's what I meant by the footnotes on that -- if you could put what does positive and negative mean. I mean, when you say they were positive, I mean, which dose was positive? I mean, it's just that. You've got every single one that's ever been done nicely compiled there. I just didn't know what negative and positive meant.

So I mean, I see this as a problem, and -- I

don't know -- it's going to require some judgment on everybody's part on how to evaluate that -- those kinds of data sets.

DR. PITTS: That's a good point. And then if you come down to bridging, if the data are available for ethyl parathion, and they do show positive -- in other words, they show --

DR. BYUS: Exactly.

DR. PITTS: -- then how are you going to bridge from ethyl parathion by throwing in a methyl, a CH2 group? You go from methyl to ethyl to methyl. And how do you treat, then, the fact that you have this massive amount of evidence on one and then a very -- it couldn't be closer -- at least, I would guess -- but analog methyl -- and their data are not so -- this is a tough call.

MR. GOSSELIN: I think as we compile all the -- you know, anytime we compile the depth of knowledge on a compound, that there are always going to be some interesting questions and unresolved issues that come up. And I think, you know, in this document we will lay out that, and you know, it's not going to be a vehicle, I think, to answer some of the discrepancies that may come out in the literature, but I think it's real important to lay that out as an issue and -- that

may not be resolved.

DR. SEIBER: One thing I wanted to ask, Paul, is jumping to the third category there, epidemiology studies -- epidemiological studies -- you made a statement that there were no studies on the oncogenicity of organophosphates. But there have been, in fact, some studies not looking at oncogenicity but other types of effects, like choline esterase depression and things of this type, particularly among fieldworkers.

And I guess the general question is, Can we -- to what extent should we be looking at noncancer end points when we get to compounds like the organophosphates, which clearly have other types of activity? And how are we going to deal with that with methyl parathion, and then in the future with some of the other chemicals?

MR. GOSSELIN: Yes. I'm not sure if that -- if we haven't already covered that, but that's something we'll look into.

DR. PITTS: Jim, you raised a very important question. We deal with this right along. Lead, we brought in this whole question of the lead document, which is -- has been going on for some time. It's a very important document. This issue is very

critical. What are the noncancerous effects? So I think it's going to be important that you have a full section on this and treat it fully, as a critical, important part of the overall report.

DR. SEIBER: I think it's actually in the report. I don't have the report in front of me, but I believe there is a discussion of noncancer effects. But I think the point was that you study population and look at choline esterase effects, that it wouldn't take much of an extension, I don't think, even with the same population, to start looking at other end points. And I just wonder if that has been done in some of those older epidemiological studies or some of the newer ones that are being done now, say, in Parlier and some of the communities in the valley.

MR. GOSSELIN: I think that's something we're going to commit to, to go back and review the literature and to see what's out there to look at. Again, putting together a document that is really comprehensive and cuts across all the issues.

Would you like to move to the issue -- to the exposure?

DR. PITTS: Let's add one more comment on the -- D here, the -- well, yes, exposure. Methyl paraoxon. Is that what you're referring to? Under

epidemiology, D, methyl paraoxon toxicity data. And that apparently is another one of these questions that comes up, the "No inhalation studies of methyl paraoxon are available."

And you did -- I know in the report you did discuss this, the point that it wasn't available. And I think at the time one of the points that I think that we made collectively was, Well, so why not? And if not, what could be done to facilitate studies that would directly bear on inhalation and methyl paraoxon. It seems to be critical to this whole class of compounds or these studies, and since this is widely used, you know, what -- what -- Jim, this is your area.

DR. SEIBER: Yes.

DR. PITTS: Wasn't that one of the points that we were making, that this was a -- and (B) it seems to me that if you could make -- another suggestion. We learned sort of through experience, in fact, it does work, that if you could illustrate, in taking this as an example, and saying, "We're not going to be prejudiced one way or the other. We don't know what -- we're not -- we just need the data."

And so with these -- with these data, we need to have studies conducted with the appropriate facilities and appropriate protocols and that -- decide

it might cost Y dollars, and whatever that might be. That might be expensive; it might be -- it might be -- I'm -- unable to be carried out this year budgetarily. I understand that.

But if you could define the scientific technical basis and need, and the sort of program you'd need, then it's the sort of thing that -- for example, we, as a panel, I think, speaking -- and we did this on dioxins years ago -- we would be prepared, I think, to certainly consider a recommendation supporting a study or funding for this sort of work. You'd have to put those in your priority scheme of what's really important, you know. It would be here, here, here. But we might be able to offer some specific support for your going out and saying, "Well, let's do the studies and let's find out." Because that's a critical -- it seems -- it is pretty critical, isn't it, in terms of what your --

DR. SEIBER: I think it is. And they mention the use of toxicity equivalence factors, which I think is the way that science is moving. At least right now. Certainly, in the dioxin case and some other classes of compounds. I'd like to get an impression on how you -- how you feel -- how you view toxicity equivalent factors, and do they fill the bill in cases

like this? Or how do you intend to use them in the future?

MR. GOSSELIN: Jay.

DR. SCHREIDER: I'm Jay Schreider. I think, obviously, we'd like to get rid of the studies done specifically on a specific root and a specific chemical so the toxicity equivalence factors would be treated as sort of a default. We'd rather have the primary information. Certainly we've used those in other risk assessments when we don't have the primary information. I mean, it's better than some of the other default assumptions that may be made, and it's certainly better than not treating the issue at all. So certainly whether it's -- it's been used in terms of some cancer end points, but also other end points. And we've used them and probably intend to use them to a greater degree as we get more and more information on similar chemicals.

MR. GOSSELIN: Yes. I think the staff is comfortable using that, and I think getting into what we do as a regulatory agency, having some issue like this laid out before us and not having the data, knowing the limitations we have to conduct all the studies we need to and sort of the ways we can gather that data, I think to use this process of toxicity equivalence to come to

some decision on what we -- level of risk is out there, and then usually what that does is if the registrants or the people really interested in the compound feel that they can better their case by providing that data, that's what -- that's where that interaction comes in; and I think that's where we may get in some cases -- and this comes up sometimes during regulatory processes, where they'll go out and collect that data, working with us in a way that it's acceptable to us. But I think in the short order, especially with the future, I think where agencies are going to -- both state and federal -- for funding and resources, that this is probably something we're going to have to use for at least the short order in basing some decisions.

DR. SEIBER: The problem with the TEFs is -- and it's not unique to this situation -- you take data that's, say, generated from acute exposures and then try to extrapolate to inhalation -- or oral to inhalation or some kind of extrapolation like that, and it's not very satisfactory. But as Paul explains, it's the best we have right now -- unless we throw it back in the court of the manufacturer and say, "Please generate the requisite inhalation tox data," and that could be fairly expensive, and we don't want to do that without a pretty darn good reason.

MR. GOSSELIN: And I think it gets into the whole longer-term process when we start to -- you know, where we go from this document and start to get into evaluating the risk and getting into risk management. Then I think the interest really grows from a lot of people's parts on maybe producing additional data.

DR. SEIBER: Okay. The second item in the letter had to do with ethyl parathion exposure. Ethyl parathion exposure. And do you want to make some comments on that?

MR. GOSSELIN: Yes. If I can summarize your comments, I think it was the relationship between the two, especially the work you had done on collecting that data. And this again was, I think, an issue that we agreed that we are going to update the literature and the data that's out there, especially the work you published concerning this, and meld this into the document and discuss this. So I think this -- it was sort of an important issue and something very relevant, but I think an overall issue on us going back and doing a literature search and making sure that the document is up-to-date on all the issues on methyl parathion and ethyl, if it's a related-type issue.

DR. SEIBER: Just a footnote. Ethyl

parathion has been banned, I believe. In fact, I believe it was two or three years ago. So there won't be any new ethyl parathion data, we presume.

MR. GOSSELIN: The next issue was on modeling, and I think this gets into another cutting-edge issue on how do you bridge data that's out there to help you better understand the products you're reviewing. And we've subsequently discussed this even more in detail on how do we incorporate modeling into the document. And I think this is going to be an ongoing dialogue we're going to try to work into as we move forward with evaluation of each product, the appropriateness and applicability of models as they're developed, and to come out into the depth of knowledge we have on these products is -- that can help us -- is part of the evaluation.

So I think the -- sort of the bottom line we came down to is that we are going to address modeling and incorporate it into this and, also, I think in the future consider it on an ongoing basis.

And we talked about workshop ideas. That will be probably an important topic as we move forward with each subsequent material. Rather than taking it as a separate issue, I think we can incorporate it into the existing process and deal with it on how -- what models

that are available are applicable to the products we're concerned with. So --

DR. SEIBER: Again, I'll just interject a footnote that the development with air dispersion models has been quite good, particularly ones that deal with the large area source, which is typical for pesticides. And so that now you can do some reasonable downwind exposure scenarios, and it just wasn't possible before. So I think we're going to see a lot of movement in this area.

MR. GOSSELIN: Yes. And we used a lot of the modeling very extensively, particularly on methyl bromide, and we've come out with permit conditions which are essentially mitigation measures that the county ag commissioners are imposing each time a user comes in to get a permit, and you know, on the whole range of issues to mitigate exposures -- and modeling was used extensively to help craft those permit conditions to reduce exposure. So it is something that I think is a regulatory tool and an evaluation tool being used more and more.

DR. PITTS: Excuse me. Are there any other comments?

I just have one, if I may. Again, this is sort of a footnote. You say there "For most systems

monitoring data are not available," and I guess the question I had is, well, for which systems are they available? And you've already just mentioned one, then, methyl bromide. What other systems -- what other pesticides are these data available for?

MR. GOSSELIN: I think that the models -- the models are a tool to use to extrapolate out if there is exposure residue data available, and I think maybe the point was -- is that -- and Dr. Seiber, you can jump in if I'm getting off base a little -- but if there's not that residue number to start from, you -- the utility of the model becomes less and less. The models can be used for a whole variety of pesticides provided that there is at least some baseline data.

DR. PITTS: But that's where I was -- you said not available for most systems, but you just indicated -- there are some, I know, that you published on. Are there half a dozen or -- I guess my bottom line is -- I would sure love to see more data, I mean. So that this is part of the thrust of what I'm asking you, is thinking five, ten years ahead and over time, how do you develop a data base, if this is so appropriate in so many other areas of -- in the atmospheric chemistry per se?

Data bases on carboneal compounds today are

lousy. I've seen comparisons. Even two well-known international labs, the butane is off by a factor of two in just air. You know, that was another issue.

But the idea of having good data available -- and I think in your planning process, in looking ahead -- we're not saying -- we don't say here to -- the panel -- you must -- these must be done now. They're expensive. But a program saying which are your priorities and working with someone like Jim here, Dr. Seiber, and others, what this looks like in terms of risk, public risk, and in terms of our need and exposure risk; and this is the data, these are the data that we have available, these are the data we need. Then you are on record of at least making clear to the scientific community both within industry and in the community at large and academia and so forth, and the government, that you have considered these, this is your best judgment of what ought to be done, and here's our suggestions as to how one might do this.

You wouldn't do them yourself, but there's a procedure whereby these would be generated, could be funded, and then we're not in a position five years from now of saying, "Gee, we need more data," or you're in a position of being criticized -- quite unjustly. You've suggested it. Here it is. We've got the idea. This is

what ought to be done. This is our scientific basis. And it moves up a ladder and moves into the appropriate areas, but you come out looking very measured and thoughtful considerations of what are the gaps in the literature for exposure and what might be done to carry this out so this can be used as a base, just as we are with the other toxic species that we deal with on the panel.

MR. GOSSELIN: I think when we discussed the role and appropriateness and how models are used and have been used, I think that will really foster, I think, what you're suggesting --

DR. PITTS: Good.

MR. GOSSELIN: -- the continuation of, I think, something -- you know, that -- that train has already, I think, left the track and is rolling along, but I think your point's well taken. I think we agree that we need to really keep it rolling to explain how modeling has been used and the appropriateness of it and inappropriateness of it, to at least continue that and make sure that when monitoring is done, it's done in a way that can even feed into additional modeling programs. But it is something we have been very interested in using, and I think there's a lot of interest in academia in pursuing this kind of tool. We

want to see more use of it. I think there is going to be no turning back on its increased use. But I think by explaining that and laying it out, we can increase interest in it from academia.

DR. SEIBER: It's a real critical issue. The problem goes something like this: There's basically no monitoring data for pesticides in the atmosphere. The state and the federal government spend a lot of money monitoring the food supply, but they do essentially nothing on airborne residues.

Now, should they? That's the real question. The answer is probably, they should do some. But do you want to do the extensive network that you do, say, for other types of air pollutants? And there is data from worker exposure, but again, very little in the ambient category. Very little.

What happens now when DPR and ARB decide they want to spotlight a chemical, they'll contract, go out and collect some very limited monitoring data, just -- it's really just a snapshot of time. So you don't have that extensive data base. You don't know how it varies through the year or from Fresno to Bakersfield. There's just no information.

So you have to -- you have to do one of two things, decide you're going to spend a lot of money and

go out and monitor or rely on models. And I think the very expense of this thing argues as the models are coming along, that we start to use them more. Now, you have to validate them, and that's where the methyl bromide and the telone experiences and things that have been done can come into play. But I think to set up an ambient monitoring network is just not in the cards for pesticides.

MR. GOSSELIN: Yes. And I think one thing I do need to put in the record is the extensive cooperation we've had with the air board on monitoring the pesticides and the candidates as TACs, and I think that's important to note that within -- within, I think, some pretty finite resources, a lot of work has been done, not just by academia, but by ARB working with us on monitoring some of these pesticides to at least, I think, build the foundation to use some modeling applications. And I think there are some real good examples. You point to telone and some of the other things where -- metam sodium is another recent one where that cooperative effort on monitoring resulted in some fairly swift mitigation measures being done.

Anything else on modeling?

The Issue 4 was the format. And again, this gets into a discussion, I think, as viewing this process

as an evolving one. And I think we've really reached a point on the format that I think is really going to help us in the long run continue on this process in maybe a swifter fashion, but I think the -- one of the important issues that was raised was the executive summary. And we've started on the work to prepare an executive summary in a similar format that the panel is used to seeing from the air board and OEHHA, really outlining some of the major issues in a bullet format and clearly using that as, I think, a good overview, as a guide to look into the document for some of the real specific issues that are in the document. So that is something that will be part of the package that comes in.

Any comments or thoughts on the format?

DR. SEIBER: Well, I think you said, Paul, that beginning with the next report, you'll change your format.

MR. GOSSELIN: Right.

DR. SEIBER: Maybe you can just be a little more specific. How will it actually change, say, from methyl parathion to the DEF report?

MR. DUNCAN: My name is David Duncan.

I think with methyl parathion what we had discussed at our meeting for October 7th was that we would make changes to the executive summary to bring it

into line with what the Air Resources Board is using and consider that a more helpful document.

In terms of the methyl parathion document itself, I don't believe we were going to be making major changes in some of -- the organizational. There are parts of the Air Resources Board document that don't really fit with pesticides, for instance, but we will make every attempt in DEF to mirror that organization.

So I think that the reasoning was that the methyl parathion document has gone on. It's been -- it's gone through sort of an initial review right now, and we're kind of -- we've gone -- we're just about ready for public comment. So I think we're kind of in transition to a new organization.

DR. SEIBER: I think that was the substance of the letter. Then we get on to prioritization, which I gather is a separate topic -- agenda topic for today, Jim.

DR. PITTS: Yes.

Are there any comments, suggestions from the -- oh, there is one point here. That's the workshop. The last paragraph, the possibility of a joint SRP/DPR workshop for pesticides. And I wondered, what's the status of this?

MR. GOSSELIN: Yes. We discussed that

subsequently in a conference call, and that was the point on, I think, overviewing all pesticides in the air and particularly talking about modeling aspects. And I think one of the things we -- I think we agreed to, is that those issues we can craft into the ongoing process for, let's say, the next product, DEF, and do a workshop on that -- and in a way to cover some of the cutting-edge issues and -- such as modeling and other issues that we need to look at -- as part of the existing process so we don't create two different tracks on having a separate workshop on an overview, but try to make changes to the process on an ongoing basis when we do move forward on products.

And I think it gets back to the view we have is that what -- where we're going from this document, methyl parathion, and the next documents, that it will be an evolving process to make format changes and substantive changes to deal with a whole range of scientific issues.

So we were looking instead of having a separate workshop on pesticides in the air as a general topic, incorporating those issues into workshops we have on the next products coming through.

MR. DUNCAN: And I think we had indicated, as well, working with the panel or representatives

of the panel on that.

DR. SEIBER: Yes. I think there's a lot of generic issues. Now, DEF might be a good point to start, but some of the issues are fairly generic, and I think the point is we would use DEF, since it's the next one on the list, as the reason for holding the workshop, but in fact, there would be, I think, some general discussion in the workshop on modeling that might be applicable to many chemicals. And I'd like to toss that idea back to you and see if we couldn't kind of have a dual format here where we maybe have some general discussion as part of the workshop and then get into some specific issues on DEF. How do you feel about that?

MR. GOSSELIN: Yes, I think we're in absolute agreement on that process, and I think we can work together when we set the workshops up to make sure the format is set up that way; and the process will get that information to us that will fairly help the process improve and the products that come out to be the best products we can produce.

DR. SEIBER: Okay. We might want to come back to this workshop idea. I think we were going to discuss that in connection with the prioritization too. So maybe we won't close the door on that one.

DR. PITTS: Let's not close the door.

MR. GOSSELIN: No.

DR. PITTS: I'd like to --

MR. GOSSELIN: Yes. I think with that, you know, the basic concept, we want to -- I think we want to get to the same place and get the input and the discussion on the scientific areas, but I think do it in probably a -- from a resource standpoint, in the most efficient way possible, but still get that input and that discussion.

DR. PITTS: As Jim suggested, I think an idea would be to question -- specific questions that we've already raised with regard to methyl parathion are generally applicable to the whole range. And so even, say, to use as an example, you'd have a specific example -- and you'll have methyl parathion, which we would have gone through this -- you can then generate some sort of workshop in which you could talk about these specific issues which are compound-independent -- the bridging, the modeling -- and that this could be discussed at least as an introductory morning session. These are general concepts, general concerns: lack of data, what are we -- sort of in general; and then you have now, then, a specific compound, and here is what we did for methyl parathion. Now, that's -- the next

advance is this. And then you deal with them, but in a useful way to have the general statements and then come to the specific species that you're referring to.

MR. GOSSELIN: Yes. And I think tying the two together would probably bring the right players to those meetings, because there will be a strong interest from the industry to be there because of the regulatory tie-in -- rather than if it was split off separately, it might not be perceived as being a high enough issue as us moving forward. But I think if it was tied to the context of an actual process we were moving forward on, the right -- all the right players would be there for a real full discussion on it.

DR. PITTS: Good.

DR. SEIBER: And I think we talked, timewise, we're really talking spring at the earliest, and I don't know if you've given that any more thought.

MR. GOSSELIN: Yes. Spring, summer '95, I think, depending on how the document goes. But you know, definitely by summer '95.

DR. PITTS: From an operational point of view, you might continue to -- as you do -- close -- keep in touch with Dr. Seiber here, and Dr. Seiber could sort of represent our panel in terms of our interactions and come up with the data and the format,

the type of structure of the workshop. That would be fine.

Thank you very much.

MR. GOSSELIN: Thank you. We appreciate your comments, and we'll move on to the next agenda item.

The next agenda item is the presentation on the draft report for evaluation of pesticides as candidate TACs. Kevin Kelley is going to give an overview of the presentation of the document. I believe you all got the documents in the mail. We have some copies out in the back, and we can mail additional ones out.

Anything else?

MR. KELLEY: No, not yet.

Well, thank you all. My name is Kevin Kelley. K-e-l-l-e-y is the spelling. And I'd first like to begin by offering a little brief overview of the candidate selection process as the department has gone through in the last several years.

(Overhead presented.)

As you know, AB 1807 was first enacted in 1983 and again modified in 1984. And from 1984 through 1987, the department worked on a document that was presented to the SRP which is basically entitled Plan

for the Implementation of Assembly Bills 1807 and 3219. This plan listed the process that the department would follow in the implementation and in the evaluation of pesticides as toxic air contaminants. Furthermore, this plan also has a list of 14 pesticides that were attached for evaluation.

Now, in the interval between the first -- 1987 and 1989, several of these pesticides were withdrawn from use by USEPA. This prompted our department to start evaluating other pesticides and to modify the implementation plan, and in 1989, the -- what was presented to the SRP was the modification and additions to the candidate toxic air contaminant list, and this document contained a list of 26 pesticides that the department would be evaluating as toxic air contaminants.

In the time between 1989 and 1994, the department has presented ethyl parathion to the panel and subsequently declared it to be a toxic air contaminant. We've also requested from the Air Resources Board monitoring information for 24 out of the 26 pesticides.

And then along comes 1993. The department started to -- the process which would list pesticides that had been identified by USEPA as hazardous air

pollutants as toxic air contaminants, and this has resulted in a list and the elimination from the modifications and additions documents of 11 candidates that have been removed and are being dealt with through a different portion of the requirements of 1807.

And so then the department -- you know, we're down to the point where we needed to reevaluate some more pesticides to get them into the process.

And in order to avoid the more qualitative processes that were developed for -- in the two previous documents, the department decided to evaluate in a quantifiable manner those pesticides already of some concern to the department, namely pesticides on the SB 950 and the Prop 65 lists. And SB 950 is the Birth Prevention -- excuse me -- Birth Defect Prevention Act of '94, and Prop 65 was the Safe Drinking Water and Toxic Enforcement Act of '86.

Two hundred five pesticides were evaluated, and of these fifty-five have been canceled by U.S. EPA and therefore -- or voluntarily removed from registration, and these were taken off the actual evaluation process.

And finally 134 pesticides are presented -- we're presenting today in the report entitled Pesticides for Evaluation as Candidate Toxic Air Contaminants.

(Overhead presented.)

The department -- or the law states that the department's to consider several factors in the development and evaluation of pesticides as toxic air contaminants. One of the categories is the potential risk of harm to public health; the second major category is ambient concentrations or atmospheric persistence of the pesticides; and third is the amount or potential amount of usage.

And what we did for the evaluation document before you was -- is the potential risk of harm to public health was broken out into four categories. The first category is the acute toxicity of the chemical compounds. The second category is oncogenicity. The third category is how it ranks in the no observable effect level. And fourth would be whether it is or is not a Prop 65 pesticide.

Now, when all these are added up, for the points that we assign, basically 1 through 4 for the categories of acute toxicity, NOEL, and 1 through 5 for oncogenicity, based on U.S. EPA's carcinogenicity list. And then finally, for Prop 65 pesticides, there's more of an all or nothing, so it was either 4 or 0 points. The maximum number of points that a pesticide could receive in this risk evaluation was 17, and that

includes the acute, the oncogenicity, the NOEL, and Prop 65.

Now, ambient concentrations or atmospheric persistence. For many pesticides this information is not available, so what we chose was the vapor pressure and also the Henry's Constant as two physical chemical factors which would give us a handle on the potential for the pesticide to be found in there as well as the possibility for atmospheric persistence. These were ranked basically from 1 to 4 points -- or 0 to 4 points each, depending, and the total physical/chemical characteristics, points would have been 8 points.

The third category is amount or potential amount of usage, and we chose to use pesticide use or sales, whichever was greater. The reason for this is that many pesticides are also licensed for home use, and a pesticide which is licensed for home use and used by a homeowner at home is not required to be reported to the department in actual use figures; so therefore, we felt that sales would give us a better handle on the potential amount that has been used. And it was either the greater of use or sales, and that was ranked from, again, 0 to 4 points.

And then all three of these, the total toxicity, to total from the physical/chemical

characteristics, and the total amount, were all added together, and the pesticides were ranked into three categories: basically, high-priority pesticides, medium-priority pesticides, and low-priority pesticides. And from this process here is where the pesticides would begin to be evaluated for their potential to be toxic air contaminants.

I would like to -- one comment I would like to make about the report is that unfortunately the medium priority list in the document, the pages have been reversed. So the second page should be the first page for that.

DR. FRIEDMAN: What about the pages did you say?

MR. KELLEY: They were reversed. So page 18 should be 17 and vice versa.

(Overhead presented.)

Now for the pesticides that are 950 pesticides that have been -- that are being listed as hazardous air pollutants based on U.S. EPA's -- being listed as toxic air contaminants based on U.S. EPA's designation of hazardous air pollutants.

This figure is actually not in the report. All you have in the report is a list. And I brought this figure along today to show that the way the ranking

in the report sits at the moment is that pesticides with a score of greater than 14 points are listed as high-priority pesticides, and what we come to here, we'll see that the pesticide Trifluralin, which is the 15th pesticide down on this list, is 14 points -- would be the bottom of the 14 points.

So basically in the hazardous air pollutant list, the majority of the pesticides in the SB 950 process that are listed as hazardous air pollutants would have come out into the high priority list, and the others basically would fall on the medium priority list except for hydrogen chloride, which would be on the low priority list.

I also would like to direct your attention to the fact that ethylene parathion -- excuse me -- ethyl parathion was declared a TAC by DPR, and that both ethylene oxide and inorganic arsenic have been declared TACs by the Air Resources Board already.

DR. WITSCHI: I have a question.

MR. KELLEY: Yes.

DR. WITSCHI: Formaldehyde, you say zero oncogenicity.

MR. KELLEY: Formaldehyde.

DR. WITSCHI: That's a possible carcinogen according to IARC. It's Class 2 by IARC. There's an

extensive basis on the carcinogenicity on formaldehyde.

MR. KELLEY: Okay.

DR. WITSCHI: I have some questions about the reliability of this table, having seen this one -- frankly.

MR. KELLEY: Okay. The actual author who worked on the toxicity portion is not here.

DR. WITSCHI: Well, yes, but formaldehyde has been around as a carcinogen for about ten years by now.

MR. KELLEY: Okay. But then the other point, too, is that -- the reason I brought this table here -- and you know, there are -- there may be inaccuracies. We're going to definitely go over all the tables prior to this coming out, and this is why we're out for public -- for comment.

DR. WITSCHI: I don't know that that's an inaccuracy. I think that's more serious on that one.

MR. GOSSELIN: What do you think?

DR. WITSCHI: I think that's a pretty gross overlook. I mean, that's ignorance of the compound that has been around for a long time.

MR. KELLEY: But the point that I'm saying is that I was the one who made the table, and if the information was given to me and I typed it in wrong,

that would be one explanation for this. The other thing also is that this table is a draft table, and this table was basically stopped in production when these pesticides were removed from the process, to be declared hazardous TACs based on the fact that they're hazardous air pollutants.

Now, the sales use data for this also is only including in two years versus the three years that are included in the report. And so that's --

DR. SEIBER: Kevin, is this table in our report here? I couldn't find it.

MR. KELLEY: No. Absolutely, it's not in the report. It isn't. It's a list that was given to you this morning --

DR. SEIBER: Oh.

MR. KELLEY: -- in some handouts that are in your folders. So that's basically --

DR. PITTS: I think I have this.

MR. KELLEY: Yes.

DR. FRIEDMAN: Would you explain to us how you arrived at the dividing lines between high priority, medium priority, and low priority. Was it like just arbitraries, or how did you decide what would be in those categories?

MR. KELLEY: Basically we had three

categories, and we tried to make the pesticides into, you know, somewhat workable levels on each one, rather than putting, you know, 30 pesticides on one and 20 on the other. Basically what it is, is that, you know, 14 points and above end up on the high priority.

DR. FRIEDMAN: Right. But how did you decide to make the cutoff point 14 rather than 15 or 12 or something like that?

MR. GOSSELIN: It was just basically decided. Arbitrary.

MR. DUNCAN: Arbitrary.

DR. FRIEDMAN: Yes.

MR. KELLEY: Again, this -- the utility of this is to establish a general criteria for prioritizing. It's not a final decision that -- I think it's a tool that is going to be used.

DR. PITTS: Dr. Seiber.

DR. SEIBER: Before we get too far into the commenting, maybe we can clarify among ourselves what our end product is. In other words, this is a draft report. Now, can we make comments that we would assume would be incorporated in the next draft, or what exactly -- or is this strictly informational? How do you deal with what -- the SRP's questions to be incorporated here?

MR. KELLEY: It is my opinion it was given to you for a preliminary review, and your comments are exceptionally welcome. That's the main reason why we gave it to you is so that -- we're also going to present this to the Pesticide Review and Evaluation Committee in January, and for their comments also. After that's done then we'll come out with a more formal document which we'll then present to you.

DR. PITTS: We appreciate that. That's fine, because I think that we want to be helpful. And this is in the spirit of being helpful and informational to us. Perhaps if -- some of these questions that have already been raised that are not clear to us, there's probably a pretty good chance they won't be clear to them.

I don't fully understand what Prop 65, how -- if you give 0 for something, and Prop 65, the only thing you listed under there is methyl bromide, and everything else gives a 0, so that jacks methyl bromide up 4 points and everything else -- and I don't even know what the basis for Prop -- it just may not even -- you know, that the EPA had not -- is one of these where the EPA had not issued -- is -- a report on that particular compound or what? How does -- it's my understanding that EPA -- somewhere in all this you've used EPA data or evaluation

data, and if there were no data, if there's 0 -- how did that work? Can you explain that to me?

DR. SCHREIDER: For the oncogenicity we used the EPA's classification scheme of A, B-1, B-2, C, D, and E, and that's how we assigned the points. So if they did not, then there was no such scheme available for reproductive thoughts, and so we used Proposition 65 list chemicals under there where they were listed for reproductive toxicity.

Unfortunately, there's no sort of sliding scale or view to potency or adequacy of the information. It's either listed or not listed under Proposition 65. So we essentially used two different criteria or lists for oncogenicity and reproductive effects. So all the chemicals listed under Proposition 65, as it's stated in the text, would be for reproductive toxicity.

MR. GOSSELIN: Maybe -- I think your question is that yes, it does weigh. If it is listed under Prop 65, it does go from a 0 to a 4, which is -- which is a heavy weight -- versus the sliding scale on oncogenicity. And again, that does feed in -- fit into the extra weight that is given to the health effects of ranking these materials also.

DR. SCHREIDER: Alternatively, another

approach may have been to use Prop 65, period, whether it was listed as a carcinogen or a reproductive toxin, but we felt we had more information available and a list that had been commented on with the EPA's classification scheme.

MR. GOSSELIN: Yes. And I think, you know, when the materials are prioritized, you know -- and I think there was some arbitrary cutoff -- we had to make some decision where to draw that line, that as this tool is developed, to be able to go back in and really take a look at the products and how they fall out and how they fell out in that priority scheme to really base a decision.

MR. KELLEY: And also if you turn to Table A1 in the report, you'll find out that of the top five pesticides, four of them are listed as Prop 65 for reproductive -- or developmental reproductive toxins. So the main point where the Prop 65 comes in is in the Table A1, and it does throw four pesticides into that table. Basically the cyanazine, which is the first one, benomyl, and broxynil octanoate.

DR. FRIEDMAN: Well, I guess just to follow up the point I was making about -- now I understand this was an arbitrary division. I guess it would be -- I would recommend that in the report you

explain -- you state that and explain, you know, why you did it. And also, what are the implications for something being in high versus medium? I mean, how is that going to affect what you do? What do those labels mean in terms of your action or what you plan to do?

MR. KELLEY: Okay. That's a point well taken.

DR. FRIEDMAN: Could you maybe tell us now how you feel about those.

MR. KELLEY: Yes. Basically, the ranking of the pesticides into high, medium, and low priorities was going to generate how the department would begin asking Air Resources Board for air monitoring data for these pesticides. If a pesticide was listed as high priority, they'd be the first ones to go. And as we go down the high priority pesticides, we would start with cyanazine, propargite, and work down that list as the order that we would investigate the pesticides.

DR. FRIEDMAN: Was there some kind of -- I mean -- I forget where it was. Fourteen is the lowest high priority?

MR. KELLEY: Right.

DR. FRIEDMAN: Is there some kind of step -- you know, a qualitative -- you're going to go down the list -- you know, start with the 21s or

whatever and go down to the 14s. Is there going to be some qualitative difference from 15 to 14, versus the 14 to 13, which is labeled medium priority?

MR. KELLEY: No. I just -- and again, being arbitrary, possibly the best way to have listed this would have been a single table of a listing of the pesticides, how they ranked, and a statement in there that we would start at the top of the table and we'd work down. And we will also be evaluating all the chemical and toxicity as well as the use information that we have, you know, on an ongoing basis. And if it turns out that "onco" studies for some pesticide become available or a pesticide gets listed as a Prop 65 compound, we would add that into here, which would raise the priority of that pesticide, and so they would move up.

Also, if I could call your attention to the last table, Table A3, unfortunately, there's a lot of pesticides for which data is not available and has not been found yet. We're right now continuing to look through the literature to get information on this. You know, what's the vapor pressure of streptomycin, for example, or what's the vapor pressure of, you know, phosphoric acid? Some of these things we just don't have that information yet.

DR. FRIEDMAN: Is that Appendix C?

MR. KELLEY: It's Table A3 in Appendix A.

DR. FRIEDMAN: Because I was struck with that when I looked at Appendix C, that there was some totally blank things -- like DEF, for example, they had no information at all.

MR. KELLEY: Right.

DR. FRIEDMAN: And I was wondering why that was.

MR. KELLEY: Mainly it's the amount of -- the information is there, I'm sure. It's just the time, getting it all together and into this report format.

DR. FRIEDMAN: Oh, I see. So because of the -- you just need more time, but eventually you will have the information on all of those compounds?

MR. KELLEY: Yes, I would assume so. I mean, one can assume, I'm sure, that streptomycin has a vapor pressure of a rock, so -- you know, it would get 0 points for that, but you know, it would be nice to have a real figure rather than just stepping into that assumption.

The majority of the pesticides that are listed with lots of information, they're either well-known agricultural chemicals, so they -- the

information has been collected and is available.

DR. BYUS: I just have one question. The Prop 65 reproductive toxicity -- so if it's not listed on Prop 65, you give it a zero. Does that mean that it doesn't have any reproductive toxicity?

MR. KELLEY: No. Again -- see, that could probably be better explained too. Again, it would simply mean that it's not listed on Prop 65.

MR. GOSSELIN: But again, if --

DR. BYUS: If you knew that it had some reproductive toxicity, it sounds like it would be better to give it some other scale.

DR. PITTS: Well, supposing it doesn't in the IARC, maybe it's in the International -- the agency for research on cancer, the bible on this whole thing. It would seem to me that that would be another column which might be -- or another source of applying numerical -- using -- using like human, possible, probably, in ratings.

MR. KELLEY: Right.

DR. PITTS: It could be used for IARC, and that would give you some more. But I think this go, no-go idea, just because they didn't have it on there, you could be in deep --

DR. BYUS: Deep trouble.

DR. PITTS: -- trouble. I mean, big trouble with an arbitrary decision like that. And you could apply -- as you did -- you were commenting on formaldehyde, the fact that formaldehyde is zero on there isn't correct. It just isn't. It's classified -- isn't that a possible human carcinogen --

DR. WITSCHI: Yes.

DR. PITTS: -- category? And it's just recognized as that. So you really have to -- you need some expansion of this -- more resolution -- you know, finer tuning of this -- going along with what you were suggesting.

Yes?

DR. WITSCHI: No.

DR. PITTS: Go ahead.

DR. FRIEDMAN: I've lost it. I'll have to --

DR. SEIBER: Let me make a general comment while Dr. Friedman's recalling that. It seems to me when you get a document like this -- this is a necessary undertaking. You've got 134 compounds, and you've got to prioritize, so we all agree with that. It's also very ambitious because it hadn't been done before. So anything you do is new.

But it seems to me when you have a document

like this, with tables and decisions that are going to be made -- pretty important decisions based on how you've interpreted the data and the literature and so forth -- that you might want to have this go out for some kind of peer review or have a look by a consultant.

I remember in the case of the Groundwater Contamination Act, back in the early days of that, they had that consultant -- several consultants actually look at the tables -- you know, like Peter Witschi, maybe, looking at the "tox" tables to really flag those obvious areas where there could be improvement. And I just wondered -- now, I know you're going to present it to your research advisory committee, but they're probably not going to do that kind of detail work.

Do you feel that -- well, certainly you have a staff also. But do you think that would be helpful to have an outside consultant look at this?

MR. GOSSELIN: I think that's a real good point, and I think that's something we'll look into, because I think when we're dealing with a table and complexity of this size, we want to make sure that all the numbers in there are up-to-date and as accurate as possible.

And one important point that I think -- you

know, this exercise, as detailed as it is, and the use of the numbers and real quantifiable scheme, this is the first rollout and presentation of this document that we have made, and we want to make it before the panel; that you know, we do expect and are looking for some comments on some of the categories we've chosen, such as you brought up Prop 65 on an all or nothing or if there are other areas that might be more appropriate on working through this methodology, and I think also looking at some of the references and the tables to help us get through this.

So as we continue to work with you through this and the PREC and the outside commentors we have, we come out in the end again with a very accurate and scientifically credible process of prioritizing potential candidates.

DR. SCHREIDER: With regard to formaldehyde, if I can clarify that, where we -- when we used the U.S. EPA classification, they did not classify formaldehyde. So perhaps an approach would be to combine the IARC and the U.S. EPA classification. In general, the overlap was pretty good there. However, there are some chemicals that IARC has classified that EPA has not considered or has not given a classification, and formaldehyde is one of them.

DR. PITTS: Has that provided a sufficient time interval to --

DR. FRIEDMAN: Yes, it's come back to me.

DR. BYUS: Be sure to write this down now. Get this -- for the record.

DR. FRIEDMAN: I have two points. Your Table 1 on page 3 you give the LD 50s. Is that -- what -- for what animal is that? I mean, it must vary by species. I assume it's not human.

DR. SCHREIDER: No. The acute toxicity values were taken in general from information -- registration information, studies that have been submitted to us. When that's not available, information that's in the literature. So that is usually in rodents. Usually rats, mice, some other experimental animal species. For the registration studies that are submitted, that's almost always rats, mice, some of the information sometimes in rabbits.

DR. FRIEDMAN: I think it might be helpful to clarify that in the report.

The second question I had is my own -- probably reflects my own ignorance, but using Henry's law, I noticed that one of the aspects of it is solubility in water; the more soluble it is, the less high rating it gets. Why is that? I mean, is that

because if it's going to be -- if there's water around, the chemical will be -- will be more partitioned into the water and less in the atmosphere? Or -- there's water vapor in the atmosphere, though. Why wouldn't it be carried in water vapor in the atmosphere?

MR. KELLEY: That's a good question. I mean, it could be. Basically, what Henry's law does is it -- chemicals which have a Henry's Constant of basically greater than 10 to the minus -- or less than 10 to the minus 7th, so 10 to the minus 8th or 10 to the minus 9th are much less volatile in water, and they just tend to stay in water. So that yes, they would be -- could be available in the air in the vapor -- in water vapor.

MR. GOSSELIN: Maybe to answer your question, I think the Henry's Constant was used as a good relevant ranking, and with vapor pressure as the two -- probably the two areas we could get a fairly complete set of data that provides a constant relative ranking of the chemicals one to another versus what is available for environmental parameters.

DR. FRIEDMAN: I understand the vapor pressure part of it, but I don't understand how the solubility in water enters into this, you know, rating, or why it should.

DR. SEIBER: Let me have a shot at it. The philosophy is that if it's very soluble in water, it will stay in a lake, a pond, or in the soil.

DR. FRIEDMAN: Is that good?

DR. SEIBER: It won't volatilize.

DR. PITTS: What if people drink the water?

DR. SEIBER: Well, that's a different law.

DR. PITTS: Or the fish that swim in the water? That's toxicity.

MR. GOSSELIN: No. No. I mean, that -- hopefully, 2021 and the other programs that -- you know, we don't want to overlook groundwater contamination or worker exposure or food residue, and I think that's one of the things, viewing an air program, that we're not losing sight of those other issues. But I think the idea that if it is -- as Dr. Seiber was saying, if it is in water, it's less likely to want to be in the atmosphere, so it is a partitioning type of category more than anything else.

DR. FRIEDMAN: What if you're in a desert situation where there is no water around?

MR. GOSSELIN: It would even -- I think it would push that even to the limit that that -- sort of the characteristic or needs of that material or

chemical would want to be in the air, and that it would be probably a given that that's where it would be. It's almost trying to characterize the -- you know, where would that chemical prefer to be in the environment? And that's kind of the extent we want to use that piece of data, that it's not going to be used. And we don't view that use of Henry's Constant as an absolute indicator of where that material is going to end up in the environment because of all those other factors about it may be picked up in water molecules and moved off site.

DR. FRIEDMAN: I guess then I would recommend that you go into a little discussion of this, why you use it, what are the implications in terms of its location, and --

MR. GOSSELIN: And what we're not using it for also.

DR. FRIEDMAN: I beg your pardon?

MR. GOSSELIN: I think your point is what we're not using Henry's Constant for also. I think that it's an absolute indicator that it will stay in a water environment versus an air environment.

DR. FRIEDMAN: Yes. And maybe what are the implications of that. Is that necessarily good, as Jim pointed out.

DR. BYUS: I have one more question. Actually, I agree that this is a difficult undertaking, and it looks like a pretty good first attempt at something that's very hard to do. But just as a matter of clarification, if -- so to -- you're waiting on sort of a dosage of the stuff -- of pesticides, of how much was -- either how much was bought or how much was actually used.

Have you made any consideration for like -- I mean, I don't know anything -- well, a little bit about pesticides, but not much -- about the concentration the stuff is sprayed at? I mean -- you know, are all these things used at different levels when they're applied? They must be. So NOEL gets to -- doesn't really address that -- if something is really sprayed at high concentrations. Even if it's not -- not much of it is used, then that could theoretically be very dangerous.

MR. GOSSELIN: And I think this really fits into where this document fits into the whole process, because that's absolutely true. You'll have these active ingredients included in potentially a number of different formulations --

DR. BYUS: Okay.

MR. GOSSELIN: -- used in a whole variety of different ways in different crops by different

methods; and to use a real quantitative method to sort that out, I think, would be even more impossible. And since this is a prioritization tool, to then go the next step to get some -- to where -- that we want to work with ARB to get some monitoring data and also to fit in some of the information we may gather on the actual use practice and techniques, whether it's an aerial application, primarily misblow, or a if -- it's a soil-incorporated material, you know, we may not need to worry about it as much. And I think that's where, you know, the next step out of here is to take this prioritization scheme and then go and gather some additional data to then base, you know, the development of TAC documents. So it is -- it's sort of the beginning end of the process that chemicals will go through on 1807.

DR. BYUS: And then I've read this about the Prop 65 reproductive toxicity. In the interim here, I've been reading this over, and it is very confusing. And you're implying almost that it does not have reproductive toxicity when you give it a zero, and that, obviously, is not what you're saying. But if you read it, that's what it basically says. So you really need to clarify that. And I'm not sure, to my first approximation here, whether this is a good way to do

this or not.

I mean, clearly, I have nothing wrong with it -- the Prop 65 lists it -- but it shouldn't be given some higher priority. But then -- on the positive side. But then the negative side, by giving things that aren't listed in Prop 65, you're giving them zero. So I mean, that's just --

MR. GOSSELIN: Yes. I think we're at sort of the same --

DR. BYUS: Okay.

MR. GOSSELIN: -- understanding. I think with all these categories, we're void out. One of the comments we want to hear also is that if there's -- you know, for "repro tox," if there's a better category or reference, where we can get some indication on all those materials that could fit into the scheme, you know, that might be a good opportunity for us to reconsider the use of Prop 65 default but still get at that "repro tox" issue and have that fit into the whole prioritization scheme.

DR. SCHREIDER: To some extent or, alternatively, it could be picked up through the no-effect level. That is, if it was a reproductive toxin with a very low no-effect level, it would still get a high priority. And it may be more appropriate to

put that in with all the other toxic end points and consider it through the level of just the no-effect level.

DR. SEIBER: Yes. I'd like to pick up on one of Dr. Byus's comments there, the manner of use. And I heard what you said about that being incorporated in the next cut of the prioritization, but it seems like a case could be made for weighting chemicals that are used, say, on the surface versus soil incorporated, something like that, because that has a fairly dramatic influence on whether they're going to get into the atmosphere or not.

So I would almost wonder if you couldn't -- since that entire category only adds up to 8 points, the physical/chemical -- with the use, it's still only 12 -- and you've got 17 over on the "tox" side, maybe if that wouldn't be helpful to take your aerial-applied cotton materials versus your orchard dormant spray-type materials, which really have a tremendously enhanced potential to get in the atmosphere versus a granule that's chiseled in 6 or 8 inches below the surface. So I would almost argue on revisiting that aspect and see if you couldn't incorporate it in the priority scheme.

MR. KELLEY: I'd like to make one comment on that, is we did do that originally, but as

it turns out, pesticides such as methyl bromide and telone would be getting zero points because they're soil-incorporated.

DR. SEIBER: You would have to have an override there for those special cases.

MR. KELLEY: Yes. Perhaps we could look into that better with special cases in some of those things that we know are so volatile that, you know, even if you do soil-incorporate them, there is the potential for them to move into the atmosphere.

MR. GOSSELIN: One consideration on dual uses, soil-incorporated and aerial or foliar, would it be appropriate to default -- because a lot of them are used both ways -- to default to the more conservative?

DR. SEIBER: Yes. And then I think if they were used both ways, you would give them the higher priority score because of that one area of use where it is surface-applied.

And on No. 3 -- well, I listed No. 3 -- amount of -- or potential amount of usage. You used use or sales. You didn't use -- factor in acreage or, let's say, extent of use in the state. Is there anything else that could be used there?

MR. KELLEY: Yes, we could. We could put the acreage in, which would then get back to amount per

acre and actual use rates. It's possible we could also look at use over time, a pesticide which is applied during one month versus a lot of them which are applied, you know, extensively across the whole year. I mean, it could be extended.

MR. DUNCAN: Do you need to be concerned, though, about acreage and use being similar, and so double-dipping, so to speak, in terms of weighting that category? Just for consideration.

DR. FRIEDMAN: Jim --

DR. PITTS: Yes, sure.

DR. FRIEDMAN: -- I'd like to ask you, you know, with your expertise in atmospheric chemistry, they used vapor pressure and Henry's Constant as a measure of not only how much gets in but its persistence in the atmosphere. Aren't there some other factors, like, you know, whether they're chemically stable once they get into the atmosphere that would affect their persistence? You know, I wonder if there's some other things that could be included in that measure, like, you know, whether the sun breaks them down --

DR. PITTS: Sure.

DR. FRIEDMAN: -- or you break them down with other things.

DR. PITTS: Well, Gary, in the immortal

words of John Wooden and basketball Al Level (phonetic spelling), you certainly get an assist on this one, because in fact, that is precisely what I'd written on here, and it's called environmental activation. And it seems to me that this is an important -- I appreciate you bringing it up. You see, and that way I don't look like I'm tooting my own horn in this atmospheric --

MR. GOSSELIN: And this is all unstaged; right?

DR. PITTS: You know, you set them up. This was not a setup, but it's just as good as if it were.

Yes, I think that that's -- on my left is the author of a great chapter in a book called "Environmental Activation." I read this and recommend it to all concerned. And just the point that Gary raised. And certainly metam sodium is a prime example. That's the water side of things too. That goes into water. It's the MITC that nails you. We've been talking about the parathions, methyl parathion and ethyl parathion. And surely -- and I know -- I don't want to be overcritical, because I saw in EPA, I think it was, at the -- it was the OEHHA -- that's right -- the OEHHA document on relating for toxics, and it just said emissions. One of the factors was how much of the toxic

was emitted. And in this there was no comment made as to what might happen in terms of environmental activation of that toxic. So this is not a specific criticism; it's just a general problem that we face, is what really is the chemical species that is interacting with the biological system and what form is that species -- what is the form of that? It may very well not be. It may be less toxic or more toxic than what the heck you're putting out. Okay?

So I think you -- I would say I think it's really important, then, from the toxicological side. You have the toxicology, obviously, of what the product is. And I notice you did -- you have a paragraph in there saying that you added up MITC and sodium. So you did think of this, and that's good, but it should be more specific. And someone like Jim could give you examples that I can't -- in his article -- activation through water and some other species.

DR. SEIBER: Also the air.

DR. PITTS: And in the air. So this would be very -- a useful addition to this, and you could score in some reasonable manner to indicate that.

MR. GOSSELIN: Yes, I think we'd like to pursue that, because I think we don't want to miss issues like that, as part of this. And I think if we

can -- because as we go forward with reviewing these chemicals, those are exactly the points we don't want to miss when evaluating and coming up with mitigation measures, that we don't want to miss the activated materials that are the most problematic, and MITC is probably a good example of that.

But if we can maybe -- have to start thinking about maybe a real quantitative trigger mechanism that we could fit into here if we wanted to bring it back down the prioritization road, if you will, into this process. I think to make this thing flow, we would need sort of some triggering mechanism on that, that -- not to use the word quick and dirty, but something that -- that could fit into maybe the scheme of this rather than, I think, trying to work it out as we've tried later in the process.

DR. SEIBER: Kind of a surprising thing that Federal EPA registration data requirements don't have a good test of vapor phase reactivity. They're struggling with that right now. And in fact, there's a work group composed of agency and industry people trying to draft right now a test protocol that industry could send their chemicals through, but it's really lagged. So the fact of the matter there is, for a few pesticides there's some data, but for most of them there isn't

anything.

And also when you -- I believe this might be a suggestion. When you look at -- work with ARB on collecting monitoring data, I noticed that in some cases they want the breakdown product along with the parent, but in others they don't even ask for it. So it's kind of uneven right now, the kind of data that we're collecting.

MR. KELLEY: That's part of our monitoring recommendation is the toxicology folks look and decide if there are active metabolites which are created, then we will be requesting monitoring for those as well as the parent compound, and we have for several pesticides done that.

DR. FRIEDMAN: Well, you've emphasized the activation aspect, but isn't there also the inactivation aspect of that?

DR. PITTS: Well, sure. That's what I said. It could either detoxify or toxify. Either way.

You do have a comment in here on atmospheric persistence. That was stated here somewhere. But that -- you're defining atmospheric persistence more in terms of vapor pressure and Henry's Constant than in terms of just exactly what we're referring to, sometimes it gets better and sometimes it gets worse. And one of

the ways -- I think that perhaps it might be useful to again go back over some of the more recent certainly ARB reports that have come through the staff, the panel, and through the SRP, in which a major section is atmospheric transformations and persistence. And every compound that we have for the last umpteen years had brought before us now has this section in there, and it gives the lifetime in days, and then it -- and it gives the transformation products and -- as best they're known, and that's a key component now of every exposure evaluation and risk assessment. They expose part of -- a key -- it's just exactly, this is a detoxify, toxify, lifetime, and so forth.

So you might want to look at some of those to get an idea what's involved. Roger Atkinson, of course, is under contract. And the senator, Janet Arey, statewide has -- they've been doing this now for some years, and they're really excellent. They start with fundamentals, and they should be -- so that's something you use sort of as a model and perhaps -- I'm sure you can get help too.

And there isn't a heck of a lot of pesticides but, in fact, if you look at the future, the major future in atmospheric chemistry, in my opinion, in my perspective, is in more complex chemical species and in

more complex environmental systems -- exposed to air, water, and interface. This is a huge field where atmospheric chemists can, in fact, be far more useful to people who are in regulatory agencies and the ultimate policy-making activities that come out of this assessment evaluation.

So that -- and I'd like to -- along that line I'd also like to suggest that as you're going through this, I think you should feel free to call on any of us. This is -- really is a draft, and we appreciate having it, and this is sort of "Here it is," and we could -- I'm sure all of us would be more than happy to -- to address either specific compounds we know something about or a general -- general processes that we could be involved with. And so feel free to contact us; and I'm sure I speak for the panel. We'd be more than happy to give you what -- and then you might want to do this: You might just want to do something which could be done rather -- I think rather -- fairly easily. As you go -- after you've gone back, changing the comments and the suggestions, and you come up with another -- a revised step two in this whole thing, with your sort of bullets -- it's not a big -- you don't have to write a big report on it. Just, "Here's what we've done. Here's a new version. What do you think of this?

This is why we did this. This is your comment here."

And you could send that informally to the panel members -- this would be done as a very informal process -- and we could act on it informally and interact and say -- well, get back to you either as individuals, or we can get back as a group. Certainly as individuals. And I think that might be a useful step -- one more shot, at least -- and would be more -- I think -- I am sure I can speak for the panel, that we appreciate what you're trying to do and the importance and the difficulties, and we appreciate being involved. And step two would be one which we could additionally provide whatever information.

MR. GOSSELIN: We're looking to exactly take you up on your offer, and I think us coming here today wasn't sort of a one shot at bringing this before you, but sort of as the first step and actually you being the first viewers of this whole document. And I think as we go next month to the PREC, receive comments from them, I think we want to continue the dialogue with some of the comments you have had, and let you know some of the comments that were received from the other agencies and some of the outside people. And as we go through the document, keep the dialogue going, and then formally and informally, I think, maybe come back and

discuss where we're at with this and come to a good understanding as to making this document really work.

DR. PITTS: Yes, sir.

DR. SEIBER: Yes, I have one other -- and I kind of hesitate to bring it up, because I think it opens up a can of worms, but it's something we have to deal with.

Our assumption in documents like this, a pesticide gets into the air and people breathe it. That's the main exposure. But in fact, the main exposure may well be from the deposited residue that gets into a lake, a stream and accumulates in the food chain, and maybe in eating the trout from the -- or the fish from a river.

And as a quick example, I'd cite the Eskimo case we're all familiar with, that the reason they have so much exposure to DDT is because it got into the air and got deposited into the food chain, and since it's a fat-soluble thing, and they eat a lot of fatty foods, they take in large residues.

So how do you factor in the potential for this deposition and then entry into the food chain? Or in fact, we could carry that on to "eco" systems too. But I think the law is primarily human health driven; there could be some ecological effects.

MR. GOSSELIN: I think we dove well into that can of worms already on trying to look at pesticides in that whole "eco" system processing. And again, the use of this document -- and I think it's important to note its limitations and where it doesn't go -- is that it is only a prioritization tool to help us and ARB point towards what additional monitoring steps we need to take to gather more data. And the issue on exposure from other pathways gets back to, I think, the integrated program we have.

You mentioned before the groundwater monitoring program and the extensive residue, food residue monitoring that we do. In working with the air board on the air monitoring that -- and looking at all those exposure scenarios in total in a holistic way and compartmentalize them is something we've been trying to do on an ongoing basis.

And I think, you know, as we find different problems and residues may move from one media to another -- you know, one example I can point to is enforcement, finding some overtolerances on some crops, you know, and holding up some products hitting the food chain. And after factoring back, it looked that -- it's a matter of volatilization of certain products from one crop to another. And you know, it really gets the whole

department team working with the air board and even all of Cal EPA working more together in trying to solve some of these things as they move forward.

But I think -- getting back to this document, I think the limitations on trying to -- Henry's Constant and the vapor pressure, just trying to indicate which pesticides may be more likely to become airborne, knowing that there are a lot of other mitigation factors, but at least taking that cut, that can better prioritize which materials we then need to take a closer look at through monitoring and then get, you know, that whole process started on a more in-depth look.

So I think this document is not going to answer all the questions and put everything in perspective, but it is going to give us a first cut to at least decide out of all those materials, which ones should we make the expense of going out and doing monitoring.

DR. FRIEDMAN: I think it would be good, though -- maybe you already did, but to exclusively state that in here.

DR. PITTS: Yes.

DR. SEIBER: The multiple pathways.

DR. FRIEDMAN: Yes, and the fact -- why -- you know, what your hope is, the purpose of this

document, and you know it has these limitations.

MR. GOSSELIN: Right.

DR. FRIEDMAN: But, you know, it involves monitoring the air and so on, and that's why you're focusing on that.

DR. PITTS: Are there other comments from the panel members?

Well, if not, then thanks very much for appearing, for your presentation, and we look forward to being whatever assistance that we can.

DR. SEIBER: While our group is still here, just another pitch on this workshop. This is the type of thing, I think a workshop could also deal with more generic --

DR. PITTS: You could even start with what's the problem? -- for the workshop topic. How does one do this? And then, What are the factors in this? And then you work your way down. Because that's a generic thing. Then you take the compound you're talking about for the next one and say, "Well, here's how we got a number so-and-so, and here are are the good things about this, and here are the uncertainties." Put an uncertainty on it.

MR. GOSSELIN: We appreciate the time and the discussion, and we'll be keeping in touch on the

methyl parathion document and this prioritization document.

DR. PITTS: Thank you very much.

Let me just check with Mr. Lockett here on the timing. There are certain considerations.

(Brief recess was taken.)

DR. PITTS: The next item on the agenda is the OEHHA presentation and discussion of the OEHHA Risk Assessment Guidelines.

DR. MARTY: I think I should start with a really fast overview of the air toxics hot spots program so that everybody can put what I'm going to say in perspective. The hot spots program is designed to develop a good emissions inventory data base so that the Air Resources Board can focus resources on controlling those facilities and those processes that pose the most risk to public health.

As part of that program, facilities submit emissions inventories of specified substances to the Air Pollution Control Districts and to the ARB. The facilities are prioritized by the local Air Pollution Control Districts, and some of these facilities must conduct risk assessments.

To date, the risk assessments have been conducted using a California Air Pollution Control

Officers Association Guideline on Health Risk Assessment. SB 1731 came into the legislative being in '92, I believe it was. This required OEHHA to develop Risk Assessment Guidelines for this program for stationary sources that emit substances listed on the hot spots list.

So OEHHA is in the process of developing these guidelines. It is a public review process. As such, we are developing a lot of information that the public must review and also that the Scientific Review Panel members review.

So I'm going to -- last May -- actually I think it was May '93 we came before the SRP and presented a work plan for how we were going to develop the Risk Assessment Guidelines. This essentially is an update of that work plan showing you our progress and where we are.

(Overhead presented.)

We divided the development of the guidelines into tasks just to maintain some sort of control in the work load. The first task was to document the health values that we are using to characterize potential public health hazards, and this falls into -- has fallen into three subtasks: Task (a), 1(a), is to develop documentation for what we're calling acute reference

exposure levels to be used in the health risk assessment. Task 1(b) is providing the documentation for the chronic reference exposure levels that we use to evaluate noncancer health impacts from chronic exposures in the risk assessments. And Task 1(c) is to develop the documentation for the unit risk factors or cancer potency factors that we are using in the hot spots guidelines.

(Overhead presented.)

I'm just going to use one as an example to let you know what's coming down the pike and what the public and the SRP panel members will have to review.

The documentation for the acute noncancer reference exposure levels -- and I've given you a reference -- or a definition here of what we are calling an REL, the concentrations in air at or below which we do not anticipate adverse noncancer health impacts for a one-hour exposure.

There are 425 chemicals listed in the statute that must be quantified by facilities who emit these substances.

Currently there's only a handful of acute reference exposure levels that are being used in risk assessments, and OEHHA intends to develop more so that risks can be properly quantified in the risk

assessments. We have developed documentation to this date for 54 chemicals -- for the acute reference exposure levels for 54 chemicals.

(Overhead presented.)

Our approach has been, briefly, to evaluate existing exposure guideline levels to determine if they are appropriate for use in risk assessments from hot spots facilities. For example, the National Academy of Science has developed emergency exposure guidance levels for the military for several substances. There are other types of guidance levels. For example, occupational exposure levels. There is a short-term public emergency exposure level also developed by NAS. We are looking at the documentation for those numbers to see if we can adopt those numbers for use or somehow modify them for use.

We are also evaluating studies from literature searches and using the classical uncertainty factor approach where you have a "no observed adverse effect" level, and you divide it by uncertainty factors to get to an equivalent human no observed adverse effect level.

And when data are available, we are also using the Benchmark Dose approach, which essentially uses the slope of the dose response curve and allows you

to use a lot more information from the studies.

(Overhead presented.)

For each of those tasks, the acute reference exposure level, chronic reference exposure level, potency factors, the public and the SRP are going to review essentially two documents. One document is a rather large technical support document. For example, the technical support document for determination of acute toxicity exposure levels for airborne toxicants. This document describes each chemical's reference exposure level, the studies that were used to develop the level. In addition, the front end of that document discusses the methodologies used by OEHHA to develop these levels.

(Overhead presented.)

In addition, panel members and the public will also review a document that describes how you use reference exposure levels in a risk assessment. We sort of have a dual purpose here. We need to have scientific review of the basis for all of the numbers and assumptions that go into our model; we also need to provide a guidance document that facilities can look at that essentially says, "This is how you do a risk assessment; this is how the numbers are used." So there are two documents.

(Overhead presented.)

Briefly, the public review process goes as follows: The initial step is to have a public consultation, and we did do that this last summer. We've had scoping workshops for the public on the Risk Assessment Guidelines where we discussed how we were going to develop them.

Then for our initial drafts of each of these tasks, we contact members of CAPCOA and ARB, and we consult with them on the drafts. In addition, at this point we have consulted with the lead members of the SRP, so they have seen an early draft of the acute reference exposure level guidance documents.

The draft is then revised, released for public comment. We have public workshops during the public comment period. OEHHA revises the document according to public comments, and then it goes to the SRP full panel for review. After receiving SRP's comments, we respond to those, issue a final draft, and there is an adoption process by which the director of OEHHA adopts the document for use. So we're going through that same process for several tasks.

In addition, we have two more tasks besides looking at the health values. We also have to develop "How do you do an exposure assessment?"

(Overhead presented.)

"What do you do with -- How do you gather the data and what do you do with it?" So SRP and the public will also be reviewing a guidance document which describes exposure assessment. This includes a discussion of the air modeling and emissions, and ARB is going to come up in a few minutes and talk a little bit more about that. We also in this document present the multipathway exposure model algorithms for emitted substances.

In addition, there's going to be a larger technical support document which describes the basis for each default assumption that we use in the exposure modeling. This details the scientific basis for any defaults that we use in the parameters and any assumptions that we use overall in the model.

(Overhead presented.)

And then the third task which SRP members will be involved in reviewing revolves around development of uncertainty analysis for the risk assessment process. So the public and the Scientific Review Panel are going to review a large technical support document which described a range of values for key exposure parameters in our model and how this range can be used with the statistical method to look at

uncertainty in the exposure estimates.

It describes the basis for the range and also describes the statistical method we will be using to propagate uncertainty through the model. And in addition, this will be accompanied by a smaller section which is essentially the guidance document on how to use uncertainty analysis in risk assessment.

And that pretty much sums up what you folks will be seeing coming down the pike to review, and I have to tell you, it's a lot of material. So it would be -- I guess the first draft document, which we received some comments back, is still undergoing internal review. My boss's boss's boss still hasn't reviewed it. So it's got a little bit of ways to go, and then it will be released to the public in four to six weeks. So -- and we anticipate further drafts coming out about every three months. So I hope your calendars are cleared.

Does anyone have questions or comments that they would like to discuss?

DR. WITSCHI: Yes. On a very general basis, this is for -- you -- surrounding hot spots; right?

DR. MARTY: Right.

DR. WITSCHI: Now, for many of those

chemicals, we know, because we have probably TLV's on them, so you could say we know under what conditions we do not anticipate health effects; except on the other hand, these are not going to be healthy workers working in those areas. So on -- yet on the other hand -- I only have two, you know, but I am a scientist, I can have as many as I wish, you know. And yet on the other hand, we also know that people around those places do not get acutely sick. So how do you propose to define an adverse health effect?

DR. MARTY: Okay. We are going to use "epi" data when we have it -- epidemiological data when we have it, and we actually do have it for some chemicals; but in addition, we're going to use animal toxicity data and then, in general, apply uncertainty factors for extrapolation from animals to humans and for inclusion of sensitive individuals in that actual number.

So we are relying on animal toxicity testing quite a bit just by virtue -- because there is no epidemiological data, and we are looking at shorter term, one-hour exposures, and in addition, we're going to be looking at longer-term exposures for potential for chronic.

DR. WITSCHI: Then how are those things

going to be different from TLV's or maximum ceiling or maximum --

DR. MARTY: They will be different. They will be different because of this issue of the healthy worker. We're trying to extrapolate to the general population, which includes kids, the elderly, ill people, people with preexisting diseases like asthma, for example.

DR. WITSCHI: You don't even have the animal data on that one.

DR. MARTY: No, we don't.

DR. WITSCHI: That's not an objection.

DR. MARTY: That's right. That's right. It is problematic. There are some -- when you see the document, we will have a section on sensitive subpopulations where they can be identified, but the data gaps are enormous in identifying some populations. This is always why we end up resorting to uncertainty factors.

DR. PITTS: Yes.

DR. SEIBER: This is more a comment for Jim and the panel, I think. I was provided a copy of this document and set out ambitiously to review it, and got through about the first page or two and realized that this was going to take a whale of a lot of time.

So I'm beginning to wonder what our -- how can we give some really good, thoughtful -- oh, you've already done it, then.

DR. PITTS: No, I've just lifted it. That was Task 1: Can you lift it? Yes, I did the same thing. I went through several pages, and -- of the abstract, in evaluation.

DR. SEIBER: Yes.

DR. PITTS: That's a good question. Continue.

DR. SEIBER: How can we give the kind of input, which I think Melanie and the staff deserve, without spending days -- literally days or weeks on this document? How are we going to do this?

DR. WITSCHI: Well, cancer all of a sudden looks attractive because it's so simple.

DR. PITTS: One suggestion might be, too -- I did look at the -- the abstract. But would there be areas where you who are preparing the document would have specific questions that -- where staff members might be helpful? You might say, "I want to ask Craig for this or Gary for this, or John," and then you could address them to us and say, "Look, check page so-and-so on this."

And you know, one of my suggestions was --

I'm sure you've already seen the suggestion -- that you really need to know about incorporating environmental activation. And that's fine, and we'll do that. And then you check with Jim and myself, and we'll do -- help you in that area. But that -- that -- you have a good question. I think that would be a way to handle it. We could still look at it.

I sort of went through the thing, too, and I might take a compound of interest particularly to me -- but that will be very helpful. Just generate that to you and your staff and George and say, "Look, these are questions that occur to us," and we'll be more effective in helping you.

DR. MARTY: Okay.

MS. SHIROMA: Genevieve Shiroma, Air Resources Board.

This is a new experience for all of us. This is a different area than you folks have been involved with before, and perhaps we can go back to some of the techniques we've used in the 1807 process where, for example, on the Part A's, the exposure portions of the report, we'll actually sit down and meet with you, Dr. Pitts, and walk through the report prior to your actually having to take it and review it page by page, and then, as you were saying, to point out the areas

where specific numbers could focus on.

And, Dr. Seiber, I think we were envisioning that, in particular, you would look at the exposure portion of the document when that becomes available, and of course that's not available yet, although we'll give you a five-minute overview on where we are with that.

So it's a learning experience, lots of time, but we'll try to make it as easy as possible for you and to facilitate your review.

DR. PITTS: Are there other questions or comments?

Well, if not, this was brief but very helpful. I think that you really brought us up-to-date on what's going on, and we appreciate that. And as I said, we'd be pleased to hear from you again as to how we might be helpful in our specific areas of expertise.

DR. MARTY: Thank you. I would like to add that we did receive comments already from Dr. Pitts, Dr. Seiber, and Dr. Glantz, and they are being incorporated into the next draft. So we're aware that there are lots of concerns.

MS. SHIROMA: Dr. Pitts, we also have a five-minute presentation for the panel on the ARB's contribution to these guidelines, and that being the update on the exposure modeling portion of the

guidelines.

DR. PITTS: Yes, please.

MS. SHIROMA: Lisa Kasper will give that presentation.

DR. PITTS: Sure. It fits in well.

And would you check with Bruce to be sure that we get copies of these overheads also. Thank you.

MS. KASPER: Hello. Today I will be going over ARB staff's contribution to the OEHHA SB 1731 Risk Assessment Guidelines.

During the development of the OEHHA guidelines, they are required to consult with the ARB on areas in which we have expertise. In conducting a risk assessment, the estimation of the facility's impact on ambient air concentrations is required.

(Overhead presented.)

This is done using air dispersion modeling. The ARB has expertise in this area. Therefore, we will be responsible for developing the air dispersion modeling section of the OEHHA Risk Assessment Guidelines.

To do this, we have contracted with U.C. Davis through Dr. Dan Chang and Dr. Vicente Garza to update and expand what is currently in the California Air Pollution Control Officers Association, also known

as the CAPCOA, Risk Assessment Guidelines for inclusion in the OEHHA guidelines.

Today I will briefly describe what is currently in the CAPCOA Risk Assessment Guidelines, and then I will describe how U.C. Davis will be expanding upon this data for the OEHHA guidelines.

Finally, I will go through the SRP's role in this contract with U.C. Davis.

Currently in the CAPCOA guidelines there's some general guidance on how to perform an air dispersion model for the hot spots risk assessment program.

There is a brief summary on how to perform a screening air dispersion analysis followed by guidance on conducting refined analysis. Included in this section is a table of recommended models and model options, as well as lists of substances that need concentrations calculated for determining the cancer risk, chronic noncancer effects, and the acute effects.

(Overhead presented.)

There is a brief description on model input data necessary for a refined analysis, including emission and release parameters, meteorological data, and receptor points.

Next there is a description --

DR. PITTS: Could we just -- let me -- as we're going along, maybe we can raise some points here.

One of the concerns, that certainly impacted the acid deposition program, has been going on for ten years, is QA/QC on the experimental data. For example, nitric acid and ozone and L2 and nitrous acid, whatever is in the program. And it's very clear that when these data are used for health effects, as they are in this big epidemiology program, it's absolutely essential that the accuracy and the precision of the original experimental data that are being utilized in the model are understood, that are put into the model, and that the results come out with a statistical statement saying as to what is the QAC, what's the accuracy, and what are the precisions of the model results. In other words, are the results good to five percent? Ten percent? If you're -- it's the old game. You know, data -- lousy in, lousy out. It's extremely important. It's becoming more important across the country and around the world as people are beginning to focus on this, the problem of if one has a great mathematical model but the input data is suspect, and the problem is that's not reflected in the final results of the models.

So it seems to me that -- I'd like to make a recommendation, one, that along with this necessary

model input data, that you actually have a section that deals specifically with the QA/QC data that are available, and of the data that are available -- and you get to Dr. Blanchard. Charlie Blanchard, you know, has done this for nitric acid, has done a superb job for the research division and the whole monitoring network for nitric acid. He's analyzed the whole thing, and millions of dollars' worth of data, and some of which are -- have to be just tossed out, others of which can be revised.

So I'd like to stress this, because it's one that will come up. Just a point -- not just here, but throughout these documents, that you -- we really focus, when you use a model, how good are the experimental data that go into those models, and specifically state them. And you do have good statisticians and good chemists -- Blanchard is one -- others -- who can come in and -- I assume the data -- this would also apply, of course, to the biological side, to the health effect side, but I can only speak for my area. Okay? So get that --

MS. SHIROMA: Okay. And just for background, I think we're in pretty good standing on that, because the 2580 program has a whole emissions inventory aspect to it, and that includes estimation techniques and source testing for the various processes

that are used. And then, as Lisa will describe further, on the meteorological data, there will be criteria as to what constitutes a reliable set of data. So we'll be sure to weave in a description as to what sorts of steps are taken to assure that the data is the best that there is, and that it will pass muster, that it will stand up.

DR. PITTS: But when you come out, be sure you define what you mean by reliable. I've read so many of these papers that are published on literature: Oh, this is really good; it's not quite as good as this; it's reliable. Well, what's reliable? You need to put the framework. You need to put the numbers on it, and so that you have then -- the final result of the model reflects not just the model uncertainties, which should be in there, but the uncertainties of what goes into the data.

It's okay. We understand that.

MS. KASPER: Also in the CAPCOA guidelines is a description on how to determine the zone of impact, which is the geographic area affected by the facility, and how to depict this zone through isopleth drawings.

Finally, there is a brief description on how to present the results of the dispersion modeling analysis.

Now I will go over what U.C. Davis will do to update and expand this section of the CAPCOA guidelines for the OEHHA guidelines.

The contract --

(Overhead presented.)

-- is broken down into six tasks. Each task represents a different area of guidance on how to perform air dispersion modeling.

For Task 1 U.C. Davis will provide guidance on the procedures to be followed before air dispersion modeling is performed. This information will provide the modeler with insight on how air dispersion modeling fits into the risk assessment process and how to get started. It will include information on what data is required for conducting air dispersion modelng along with a check list to assist the modeler with gathering the information. Finally, with this task there will be guidance on how to determine the modeling resolution to use, which is determining whether to go with a screening analysis or a refined. To complete this task, U.C. Davis will contact scientists and engineers with expertise on the preparation of emission inventories.

DR. PITTS: On that check list, then, just to interject, among the check list of features, then, one would be the accuracy and the precision of the

experimental data base, the various components that are going into the model. That should be a formal section of this in the check list, and then that would be there.

MS. KASPER: In Task 2 U.C. Davis will be providing guidance on how the modeler is to characterize their source and terrain. The guidance on source characterization will include the information necessary to determine the type of source involved with the project -- for example, whether you have a point, line, area, or volume source -- and there will be examples of each.

It will also include the information necessary to determine the source parameters such as deciding whether to use a long-term or short-term model, the source geometry, and how to do a plot plan of the facility.

There will also be information on special topics related to source characterization, such as short duration emissions, what to do when there's a raincap on a stack, how to handle different building shapes, and downwash when there are nearby obstructions.

Lastly, there will be guidance on how to model certain sources, such as storage tanks, dry cleaners, and gas stations, to name a few.

The guidance on terrain characterization will

include the information necessary to determine whether the terrain is flat or complex and also to determine whether the model should be run using urban or rural terrain.

Task 3 will involve developing guidance --

(Overhead presented.)

-- on how to select a model and what are the recommended model options.

This will allow the modeler to choose the most appropriate dispersion model according to the source and terrain being studied.

There will be information on what model options are recommended for different sources, different types of terrain, and different model resolutions, as well as information on alternative models. This will allow the risk assessor to use other approaches to modeling as long as they provide adequate scientific justification for their results.

Lastly, there will be guidance on how the results are used as input to the health risk assessment program.

To accomplish this, UCD will conduct a review of recommended EPA models and model options and expand and update them with enough detail to allow them to be easily followed by the modeler.

Task 4 --

(Overhead presented.)

-- will provide guidance on how to select meteorological data and receptor field for the source being studied.

This guidance will include information on the different sources of "met" data available, its validity and representativeness.

There will also be guidance on how and when to use worst-case scenarios of meteorological data along with their applicability and how to interpret them.

There will also be guidance on how to set up receptors, determine the receptor field, maximum impacts, and the population burden.

Task 5 involves preparing specific modeling examples for the modeler to reference. Examples will be prepared for specific cases. There will be information on the rationale behind selecting certain model inputs as well as model outputs and how they are used in the risk assessment program.

There will be examples of the modeling protocol --

(Overhead presented.)

-- emission parameters tabulated, release parameters tabulated, what modeling switches to use for

regulatory modeling, and an easy reference table.

In preparation of these specific examples, U.C. Davis will do some actual computational runs using models that were selected as examples.

Finally, Task 6 --

DR. SEIBER: Do you mean, under examples -- you mean specific chemicals, example chemicals? Are you going to run through the model? Is that what you mean by examples?

MS. KASPER: No, examples -- facilities with certain cases at that facility. Different types of releases or sources --

DR. SEIBER: Okay.

MS. KASPER: -- and do examples with the models.

MS. SHIROMA: And that may be a one-pollutant facility or multiple-pollutant facility.

DR. SEIBER: Okay.

(Overhead presented.)

MS. KASPER: Task 6 involves developing guidance on what the approving agency requires when the modeling analysis is submitted for review.

This guidance will provide information on the amount of detail necessary for the dispersion modeling section when submitting it to the agency. There will

also be a general protocol to assist the risk assessor in fulfilling the requirements in an orderly fashion.

To develop this guidance, UCD will contact several air districts to learn about the different requirements that exist among them.

Now I will go over how the SRP --

(Overhead presented.)

-- will play a role in helping this section of the guidelines. We want to have an early peer review of the air dispersion modeling section before it is included in the OEHHA guidelines document. Therefore, we will be giving a draft copy to the SRP lead persons as well as to an ad hoc group made up of district, industry, and environmental representatives to review.

Using this early peer review and input, we will work with UCD to prepare the report for public comment and workshops. At these workshops interested parties can ask questions and gain a better understanding of the report and add any additional improvements they see fit.

That's the conclusion, if anyone has any questions.

DR. PITTS: Thanks very much.

Panel members, any questions?

DR. SEIBER: What are the timetables for

this process in your last overhead?

MS. KASPER: The main time would be -- we want to give the lead persons a draft in May, and all the ad hoc group, so that when OEHHA goes out for their public comment period and workshops, we've already taken into those -- into account those comments and put it into the OEHHA document. And then it will go through with their process as going through the workshops and then coming to the SRP.

MS. SHIROMA: So you can expect a draft report around May.

DR. PITTS: Are there other questions?

I would just like to, then -- speaking on behalf of the panel, we appreciate both presentations. I think we also -- we appreciate not only the presentations and the manner in which they were presented, but we certainly have some concept of the magnitude of the task that has been handed to OEHHA, the ARB, and of course Cal EPA. We also, I think, as a committee -- as a panel -- are fully cognizant of the importance to public health and public policies, and then cost-effective -- approaches to health protective public policies which are cost-effective.

So we really do appreciate this, and we look forward to providing any additional assistance we might,

and look forward to hearing from you in the next step soon. And I think you might -- for example, we'd be happy to talk to the Davis group on the exposure side. Someone here knows Davis pretty well, still does -- two of you -- know them pretty well still. That's right. And so I would include that.

Thanks very much for your presentation.

MS. SHIROMA: Thank you.

DR. PITTS: Now, we have one more item. Genevieve, would you like to take over?

MS. SHIROMA: Yes. Dr. Pitts, you provided me with a copy of an article from Michael Walsh's "CAR Lines" --

DR. PITTS: Yes.

MS. SHIROMA: -- and it provides a segment to give you an update on the diesel exhaust identification activities. It has -- essentially the article describes that we and OEHHA have received -- well, some of the words that are used in the article, blasted by industry, pelted by demands," and I wanted to provide the panel with a perspective.

As you know, we released the diesel exhaust identification document in June, and this was after a multiyear effort on ARB and OEHHA staff's part, realizing that this particularly complex pollutant would

be very controversial. We held a workshop in September and Drs. Froines, Seiber, and Witschi were able to attend that workshop.

The comment period for the workshop just ended at the end of November, so the comment period actually just ended in November. We received about 40 comment letters and from a host of different interested parties, from private citizens who are concerned about their exposure to diesel exhaust, to environmental groups, to the industry representatives. And I think that while the tone is strident from all aspects, that the atmosphere that we're working under -- and I think it was used at the workshop, as well -- is collegial, professional, and open.

DR. PITTS: Good.

MS. SHIROMA: And I think that because we realize the controversy of the introduction of diesel exhaust into the process and the potential impacts of the work effort, all the more, my staff, the ARB staff, and the OEHHA staff took extra care to provide a comprehensive document, a careful document that tries to be fair in the presentation of material, comprehensive in presenting all the data that has been available. We took the care to have it peer-reviewed by experts in the field, both in toxicology, epidemiology, exposure.

I know that the OEHHA has currently on tap individuals such as Dr. Allan Smith from the University of California at Berkeley, Dr. Duncan Thomas from USC, even Dr. Joe Motterly, whose study is being used in the debate -- even he is on board and working with OEHHA on this effort.

And where we are now is we have received the comments. They do range from asking for adjustments, improvements to both exposure and to health. The jury's out. We need to take a look at those comments, review them, determine whether or not, in fact, some revisions need to be made. We will be working with the lead Scientific Review Panel members in responding to the comments.

So Dr. Pitts, you'll be hearing from us on the exposure portion, and Dr. Froines, you'll be hearing on the health.

It is a high interest. The "epi" study being used by OEHHA is being criticized. I know that George and Stan and the other staff are looking at this carefully, as have most of these other experts. I know that they believe that the work they did passes the scientific debate, but it does not mean that they have closed the door on hearing other views for their scrutiny. So the scrutiny continues.

I think that we feel we continue to maintain credibility in the effort that was produced. But again, we want to emphasize it's not as though we aren't available to hear new information or alternative ways to view the information.

There is a comment that perhaps the environmental groups are not participating as actively as might have been anticipated because they think the information is not strong. That is not the case. We have received letters from both NRDC and the Sierra Club. We have received phone calls from interested individuals. I think they, like many other groups, are strapped for resources. Their time is spread thin. But we have received an indication of very high interest on this matter.

And the article's depiction of the NRDC's comments is a good one in that while on one hand some parties feel that we have overcharacterized the risk, NRDC feels that perhaps we have underestimated the risk. So we'll have to evaluate all sides on that.

In the meantime, we will be doing our usual process of developing the Part C so that the panel will be seeing all the comments, all of our responses to the comments, and the next step will be to go out with a second workshop package.

Now, we anticipated that we would have the draft document realized and ready this winter. We -- it will be more like early spring before we are ready, and just the sheer logistics of compiling the comments, responding to them, following up on a few things, that our best estimate is that we will have a workshop probably around the May, June time frame, with a document released around April.

And that means, then, our best estimate for coming to the panel for a formal evaluation would likely be the fall of 1995. But again, we'll follow our usual process, work closely with the lead persons to go over the comments, and I would say my assessment at this point is that while -- well, there are definitely some provocative comments that -- that I think that we have been able to convey to all interested parties that we are not trying to ban diesel fuel by virtue of identifying diesel exhaust, that we are open to working with all interested parties on the best course of action for this complex substance.

At this point we are in the risk assessment stage to determine just where the diesel exhaust falls in the scheme of things compared to the other substances. At this point in our draft, we are showing that it is of high toxicity, something very important to

pay attention to.

So anyway, any other questions from the panel members?

DR. PITTS: Well, thanks for that articulate and informative and unscheduled, as a matter of fact, until this morning, set of comments on the diesel draft document. Those are -- it's been very helpful to hear this, and perhaps we can -- I would like to have maybe something on the record. Just take the record and annotate it, and let us have copies of what you said here. I mean, a few words. You know, not make a big deal out of, but let us hear. Because I think those are very good responses to what's clearly a major problem, international problem, and how is California handling this and how specifically OEHHA and the ARB are handling these, the latest scientific data that are out there and the various perspectives on those data. Well done.

MS. SHIROMA: Would you like a -- maybe a brief memorandum which describes --

DR. PITTS: Sure.

MS. SHIROMA: -- the process and pretty much summarizes what was in the record?

DR. PITTS: A memorandum, just about -- basically from the view of what you've said so we have

that on record, and then it could be submitted to the panel, and -- because these questions were constantly -- these questions are raised to us by other individuals, and this is a factual statement of very impressive work that's going on. I mean, very thoughtful work and an example of a real use and interaction with public comments, as we were saying to the DPR, how they are important and how you treat them and how you handle them. And this is --

MS. SHIROMA: I can work with George, and we can provide you that.

DR. PITTS: I didn't want to add an extra burden on your already busy schedule, but it seems important enough at this time to let us know where we stand.

Are there questions or comments?

DR. SEIBER: I just have a quick comment that diesel is maybe a good example of -- tremendously good example of why we need to go out and collect better data in some cases, because I can see where industry has sets of data and others have other sets of data, and they can't quite agree. They -- some people wanted to throw out some of the studies because they weren't, they felt, scientifically defensible and so forth. But it all kind of argues for collecting more and better data.

And I think we made a resolution a few meetings ago to ARB to maybe pick out some of those critical areas, and if the data is not there, we're not going to be able to make the decisions. We've got to go out and collect data, and that means commissioning studies in those areas.

MS. SHIROMA: Maybe I could mention that while, on the one hand, we felt that we were ready to start the process, release the report, we -- in response to one of the comments that we are looking at information based on old diesel fuel prior to the reformed diesel fuel coming into play last October, almost a year ago, that -- whether or not it would be useful to look at the characterization of the new diesel fuel, so we did propose and our board has approved a contract of almost $400,000 to CECERT, the University of California at Riverside program, to look at the chemical speciation and also the mutogenicity of old versus new diesel fuel in old versus new engines. And while we feel that we can anticipate -- and industry has told us this too -- that we can anticipate that the fingerprint will be pretty much the same between the two fuels, we felt that it was worth it to go ahead and initiate this contract and have that work done.

DR. SEIBER: Good.

DR. PITTS: Are there other -- well, that's fine. Thank you. Thanks very much. That's --

MS. SHIROMA: Thank you.

DR. PITTS: -- very helpful.

Now, the last item, other than the meeting data, would be a brief presentation on environmental tobacco smoke. And do we have -- let's see. Do we have the -- all right.

Amy Dunn, are you on the line?

MS. DUNN: Yes, I am.

DR. PITTS: Well, good afternoon.

MS. DUNN: Good afternoon.

DR. PITTS: We appreciate your being available to give us a briefing on the status of the OEHHA evaluation of environmental tobacco smoke. We appreciate that, and there's obviously a great interest in this area, so will you go right ahead now, and -- I guess we'll do this without -- we'll have the audio without the visual; right? That's a joke.

MS. DUNN: Yes.

DR. PITTS: If you have anything along the line that might be visuals that you might want to send to Bruce Oulrey, that you might want to distribute to the panel, feel free to do so, but go right ahead.

MS. DUNN: Thank you very much for

allowing me to join your meeting by phone. I did fax a handout, and I was told that it had been distributed to the panel members. Does everyone have the handout? Across the top it says, "Status of Chapters of ETS Assessment."

DR. PITTS: We have it. Thanks.

MS. DUNN: Okay. And can everyone hear me okay?

DR. PITTS: Yes, and very well.

MS. DUNN: Oh, good. Thank you.

What I'd like to do, just very briefly, is to go through the status of each of the chapters and fill you in on the details of what the process is involving the overall assessment, touch on some other issues, and take whatever questions you might have.

The first three chapters that are listed on your handout are basically in the same place in the process. They have been out for external review and gone through that. We've received extensive comments for each of those three documents. The chapter will be finalized once the comments that we've received have been addressed in that chapter. And after all of the chapters have been through that process, then the entire panel will receive all the modified chapters for their review. So that's the overall process.

We are holding public workshops, which several SRP members have attended the workshops we've had so far. Unfortunately, the workshops have not been well attended by the public. We have, however, received substantial comments in written form, and those are what we are addressing in our modifications to those chapters.

The next chapter which we will be releasing is the chapter on reproductive and developmental effects.

DR. PITTS: Excuse me. Dr. Witschi has a question here.

MS. DUNN: Okay.

DR. WITSCHI: Are we going to see those comments or not? Is the SRP going to see the comments you received?

MS. DUNN: We -- I don't think that we had planned to provide them, but we certainly can.

DR. PITTS: Well, why don't you do that. We'd appreciate it. Thank you.

MS. DUNN: So I should send copies of all the comments that we've received on all the documents so far?

DR. WITSCHI: Yes.

MS. DUNN: Yes. Okay.

DR. PITTS: What you might do is just send those to the lead person, Dr. Witschi --

DR. WITSCHI: I'm not the lead person.

DR. PITTS: Pardon?

DR. WITSCHI: I'm not the lead person.

DR. PITTS: Well, but you asked the leading question.

DR. WITSCHI: Yes.

DR. PITTS: So if you would. And then any other panel members, would you like copies of these?

DR. FRIEDMAN: Well, we usually get them when we get the -- don't we usually get them as Part C of the documents?

DR. WITSCHI: Well, that's what I was wondering. This is only the second round. Because then, if I'm correct, what's this review then that's going to be sent out for open comments? Again; right?

MS. DUNN: I'm not able to hear very well, Dr. Witschi, but my understanding is there's a question as to whether or not the comments will be sent out as a Part C document.

DR. WITSCHI: That's correct, yes.

MS. DUNN: Okay. In fact, we were not planning to exactly follow the 1807 process for this document. I mean, isn't it -- I'm sorry -- this -- yes,

1807. This isn't exactly an 1807 document, and although we have been trying to follow the procedure in general, at present our plan is not -- does not include sending out a Part C document.

DR. WITSCHI: Well, then I would like to see the comments you received.

MS. DUNN: Okay. That is no problem at all.

DR. MARTY: This is Melanie Marty from OEHHA, and I think that it's important for the panel to see the comments. That is how we have done it in the past in 1807. So I believe, Amy, I'm going to overrule you on that, and have the Part C document just as we have done it in the past for the 1807 comments -- or for the --

MS. DUNN: I'm sorry, Melanie. Perhaps -- I'm not sure I can hear everything you're saying, and I'm sorry about that. I'm really trying. I'm not sure if it's the phone or what it is. But are you saying we are -- you're saying we are going to do a Part C document? I'm sorry, but we've had extensive discussions about that issue, and a decision was made probably more than a year ago, now, of -- around that issue.

DR. MARTY: Okay. This is something that

I am not aware of, but I -- you know, I think it's important, since this is the AB 1807 process, that we stick to the standard procedures.

MS. DUNN: Melanie, that's what I'm saying, the ETS assessment is actually not part of an 1807 process. That's the point, I think, maybe is unclear.

DR. MARTY: Okay. I think we need to have further discussion on that.

MS. DUNN: That's fine.

DR. MARTY: Not in this forum.

MS. DUNN: Yes. It's a little hard over the phone, because it comes in and out a little bit. Some of the speakers are coming through very clearly and others are not.

Okay. So in terms of the reproductive and developmental effects document, we're currently preparing the external draft. We're working diligently to smooth out all the details, and we expect to be able to provide a copy to the SRP lead before the holidays. It has been previously reviewed, but it was requested that it go back to the SRP lead before going out for external review.

So our current plan is to have that to the SRP lead before the holidays and then to release the

document in January, assuming that there are no major problems with its current form.

The draft on lung cancer is in the process of being prepared for internal review. It will be a brief section on the chapter. An extensive document was prepared by the U.S. EPA, and this will be more or less an update of what the status is on that end point. And in fact, the piece will be added to the existing document on cancers other than lung cancer to have a single chapter on cancers. So that's a change in the overall structure of our assessment.

There will be five rather than six chapters when it is finalized; however, the lung cancer piece will go through first internal review and then external review on its own, because the cancers other than lung cancer chapter has already gone through external review.

MR. OULREY: Excuse me, Mr. Chairman. I'd just like to report back from the luncheon room down here. We have until 1:15 -- actually ten after 1:00 -- to end this meeting so we can make lunch.

DR. PITTS: Okay. Well, Amy, could you continue. You have just one more point you want to make -- right? -- exposure assessment.

MS. DUNN: Okay. Exposure assessment.

We're in the process of responding to comments we received from the Air Resources Board staff and the SRP leads who reviewed the document. And when that's ready, it will go out for internal review.

I also just wanted to add that the OEHHA Scientific Advisory Board Panel on Developmental and Reproductive Toxicity Identification will discuss ETS as a reproductive toxicant at their meeting which is expected to be held sometime in March of '95, so that's the most -- the upcoming event on the ETS front.

DR. PITTS: That's fine. That's a good summary of where we're at.

Are there questions on this from the panel members? Any questions or comments?

DR. WITSCHI: Well, as I said before, I really would like to see the comments that are received on all the documents on the ETS, the outside comments.

DR. PITTS: Okay. I think that's definitely the view of the panel. We would like to have, as we have traditionally in the other toxic air contaminants, we had full access to a Section C which has all the comments as they came from the commentors to we commentees.

All right. Fine. Are there other questions?

One thing that might be useful would be if we could just wind up this with a brief note that would -- not today -- but sent to the panel, this schedule of when you expect to have these various documents and where we expect to stand on these various sections of the report. You made some comments today, but I don't have them in my head. What dates -- by what dates do you expect to have this and this and this, and that would be helpful in our overall planning.

MS. DUNN: Okay.

DR. PITTS: Okay. Good.

Are there any other comments?

Well, if not, thanks very much. We appreciate the comments, and we look forward to further interactions.

MS. DUNN: Okay. Thank you very much.

DR. PITTS: I believe -- are there any other items of business for the panel?

There is one note, I note, that -- the selection of future dates, but a sufficient number of the panel are no longer -- are occupied elsewhere very significantly. Perhaps we can defer that and handle that through the -- Bill Lockett's office.

All right. That being the case, do I hear a motion for adjournment?

DR. SEIBER: I move we adjourn.

DR. FRIEDMAN: Second.

DR. PITTS: All in favor?

(Voice vote taken.)

DR. PITTS: Thanks for coming and thanks for the presentations.

(The proceedings were concluded at 1:10 p.m.)

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R E P O R T E R ' S C E R T I F I C A T E

I, JOANNE P. CUNNINGHAM, a certified shorthand reporter, do hereby certify that the foregoing pages comprise a full, true and correct transcription of the proceedings had and the testimony taken at the hearing in the hereinbefore-entitled matter.

Dated this 16th day of December, 1994, at Riverside, California.

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JOANNE P. CUNNINGHAM, CSR No. 2734